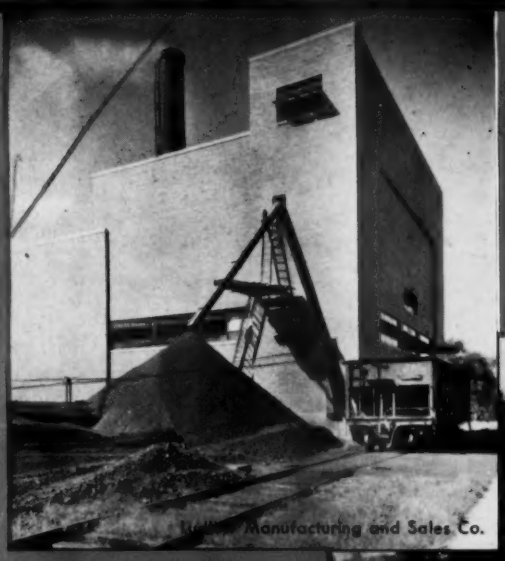
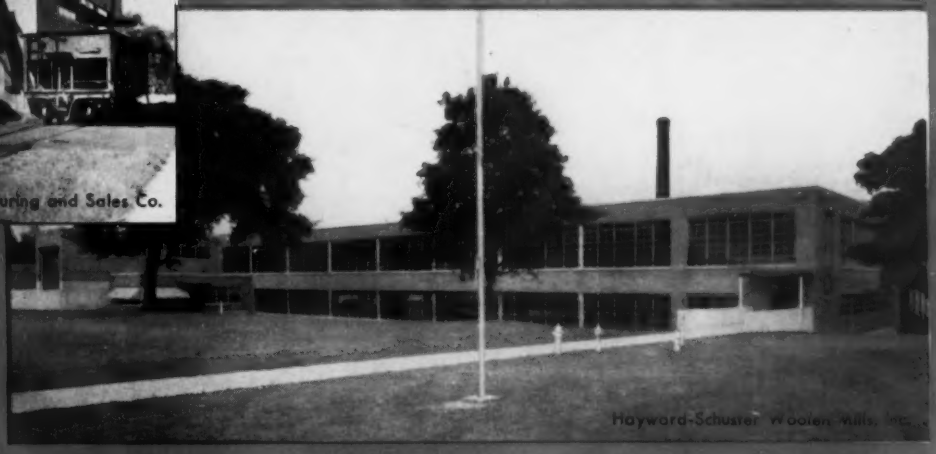
TECHNOLOGY DEPARTMENT

TEXTILE WORLD

A McGraw-Hill Publication ---------- NOVEMBER • 1948



Manufacturing and Sales Co.



Hayward-Schuster Woolen Mills, Inc.

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Annual **MILL ENGINEERING CHECK-UP** Number Page 103

Finishing Division, Colonial Mills, Inc.

NEW DEVELOPMENTS SHOWN AT THE SOUTHERN TEXTILE EXPOSITION

Page 147

COMMERCIAL FACTORS CORPORATION

Fred'k Victor & Achelis, Inc. Established 1828

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TECHNOLOGY DEPARTMENT

DRAPER Research

1841

NOV 9 - 1948
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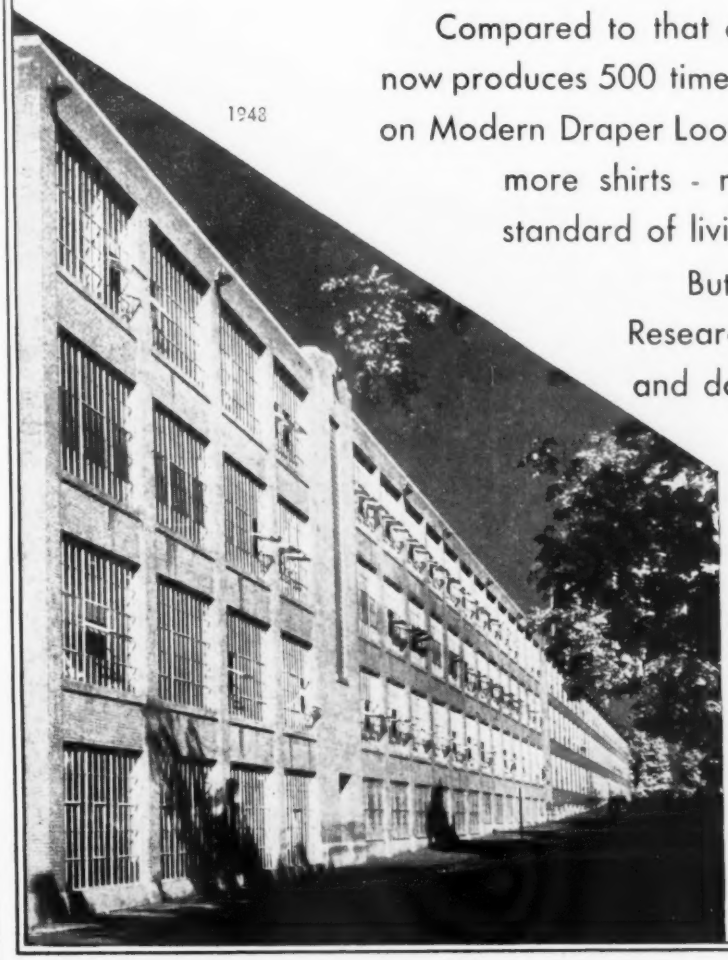
Has made this expansion possible for us.

Think, too, what it has meant to you. 1816 saw 36-inch goods being woven on power looms operated one per Weaver at around 60 picks per minute. Then Ira Draper's invention of the Revolving Temple doubled existing loom production — the start of Draper Research.



1948

Compared to that day, a Weaver now produces 500 times as much cloth on Modern Draper Looms! More jobs - more shirts - more dresses - a better standard of living.

But the work of carrying Draper Research on is not completed. It must and does continue along these lines.

Improving the mechanisms of older loom models.

Constant betterment of high speed models.

New types of looms.

Other fabric making machines.

Draper Corporation

..."so we kept trying Mathieson!"

..."now we're getting more alkali. Mathieson supplied us from their expanded output."

What's your need—heavy chemicals for greater production... new products...a new plant? Be sure to check with Mathieson. Our recent expansions were *planned* to include new customers. If you're in an area served by Mathieson, or will locate in one, we may find ways to supply you, too. Mathieson Chemical Corporation, 60 East 42nd Street, New York 17, N. Y.

Mathieson
CHEMICALS

Caustic Soda...Soda Ash...Bicarbonate of Soda
Liquid Chlorine...Chlorine Dioxide...Ammonia, Anhydrous & Aqua...HTH Products...Fused Alkali Products
Dry Ice...Carbonic Gas...Sodium Chlorite Products
Sodium Methylate

try Mathieson

ESTABLISHED 1892 • PLANTS AT NIAGARA FALLS, N. Y., SALTVILLE, VA., LAKE CHARLES, LA.

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NOVEMBER, 1948

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THE *Long-Range* VIEW

This Is the Time

We have many signs pointing to a new level of textile activity, a new "normal," higher than prewar but lower than immediate postwar. Everyone has known that wartime conditions and those of the immediate postwar era could not continue indefinitely. Many mills prepared for times such as those confronting the industry now. In this issue, we take particular note of a great number of them.

Mills which have prepared for the tightening of business have the least amount of worrying to do today. Of course, we realize that preparation goes beyond modernizing of plant and equipment. It includes intelligent plant operation, good marketing, and adequate financing as well. We are inclined to feel, however, that good facilities and good plant management are the most important factors contributing to continuing success.

In this issue, you may be surprised to note, as we were, that the largest amount of capital commitments last year was for plants to handle synthetic fibers, and that the second largest aggregate was for wool mills, with cotton plants ranking third. Perhaps we should have expected this in the case of synthetics, due to rayon becoming our cheapest fiber and synthetics in general becoming more and more versatile.

Wool-division plans are more understandable when one remembers (1) the surge to the American system of spinning, (2) the inroads of rayon such as in men's suitings, and (3) the large capital expenditures of carpet mills.

We have been noting that cotton-mill programs are for modernizing existing plants and for building new finishing plants—none for entirely new cotton mills.

The needs of mills have taxed the capacity of textile-machinery builders, many of whom have greatly increased their capacities in order to accommodate their customers.

Universal Winding, for example, has been producing at three times its prewar volume; while Saco-Lowell, Whitin, Draper, and Crompton & Knowles have each been setting new all-time high records of production. Each has modernized its production facilities to permit it to produce a larger volume of improved machines.

In addition to striving to take care of today's continuing high demand for machinery and equipment, every builder we know of is working on improved models. Some of them were shown last month in Greenville; many more undoubtedly will be ready for the 1949 and 1950 shows.

Never before in the textile industry has the need for both modern machinery and improved production methods been as critical in determining survival. As A. F. Hinrichs pointed out at the annual meeting of the National Association of Cotton Manufacturers, the great increase in wage scales compared to machinery prices means that from here on a marginal mill will be at a more serious disadvantage than before the war. Today, more than ever before, the greatest competitive factor a textile mill has is in its production techniques. Its continuing profits will come largely from manufacturing margins, not from inventory appreciation or a seller's market as in the past, nor again from cutting wages.

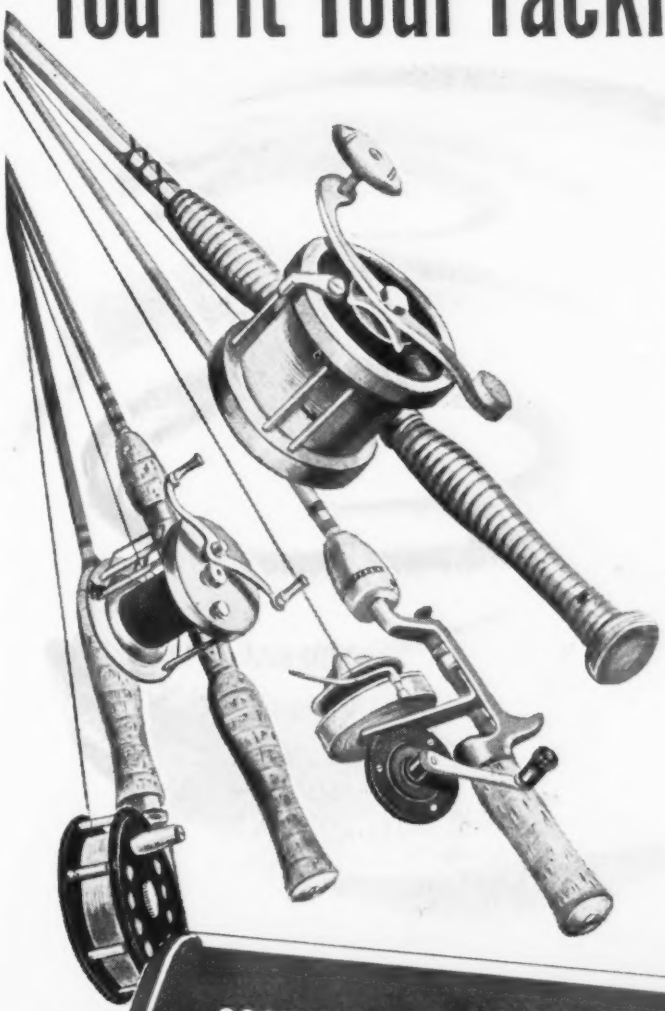
Much emphasis is being placed on the productivity of mill employees. It is agreed that important increases cannot be expected from operators working harder on a given job assignment. In fact, all trends seem to be toward lessening operator effort by mechanization, by eliminating unproductive effort, and by recognizing psychological influences. All this places a premium on good management.

Executives of one group of mills found that production per worker in two mills producing similar textiles could vary as much as 2 to 1. No one need guess which mill is running today and which has been shut down.

It is well that manufacturing textiles can no longer be likened to a day at the races, that much of the gambling formerly common has been eliminated. Recognition that the soundness of improving manufacturing techniques is basic is a major contribution in this new era in textiles.

C. H. Bendigo

You Fit Your Tackle to Your Fishing



BUY V-BELTS THE SAME WAY

YOU wouldn't cast for trout with a deep-sea rig, or expect to take tuna with a fly rod. And *one* type of V-belt won't handle all the many variations of V-drive operating conditions, either.

That's why Goodyear offers the most complete line of V-belts—featuring a *special construction to meet every drive requirement.*

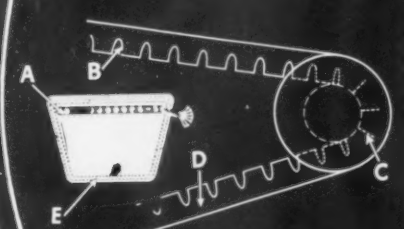
To avoid stretch problems and high-maintenance demands, there's a Goodyear exclusive—the COMPASS-V-STEEL belt sinewed with wiry steel cables. If you're having trouble with high overloads and shock stresses, turn to a Goodyear belt bodied with multiple high-tensile, resilient cords. Fast drives, with small pulleys and short centers, call for a belt with high flex-life—gained by Goodyear's single-plane endless-cord load-carrier construction. For drives where belts are hard to apply, or for quick emergency replacements, choose Goodyear's open-end belting with a special fabric body of high fastener strength.

Drive-Fitted By The G.T.M.

If you want to be sure you belt with the V-belt that's *right* for your particular needs, consult the G.T.M.—Goodyear Technical Man. He'll recommend the Goodyear V-belt to give you longest trouble-free service at the lowest cost in the long run. Write him c/o Goodyear, V-belt Sales Dept., Akron 16, Ohio.

GOODYEAR INDUSTRIAL RUBBER PRODUCTS

GTM-Specified COMPASS-V-STEEL BELT



A Load-carrying section of endless high-tensile steel cable.

B Vents open between pulleys, dissipating heat.

C Vents compress rounding pulleys, giving continuous gripping surface.

D Highest quality rubber underbody.

E Sturdy, bias-laid fabric cover resists wear.

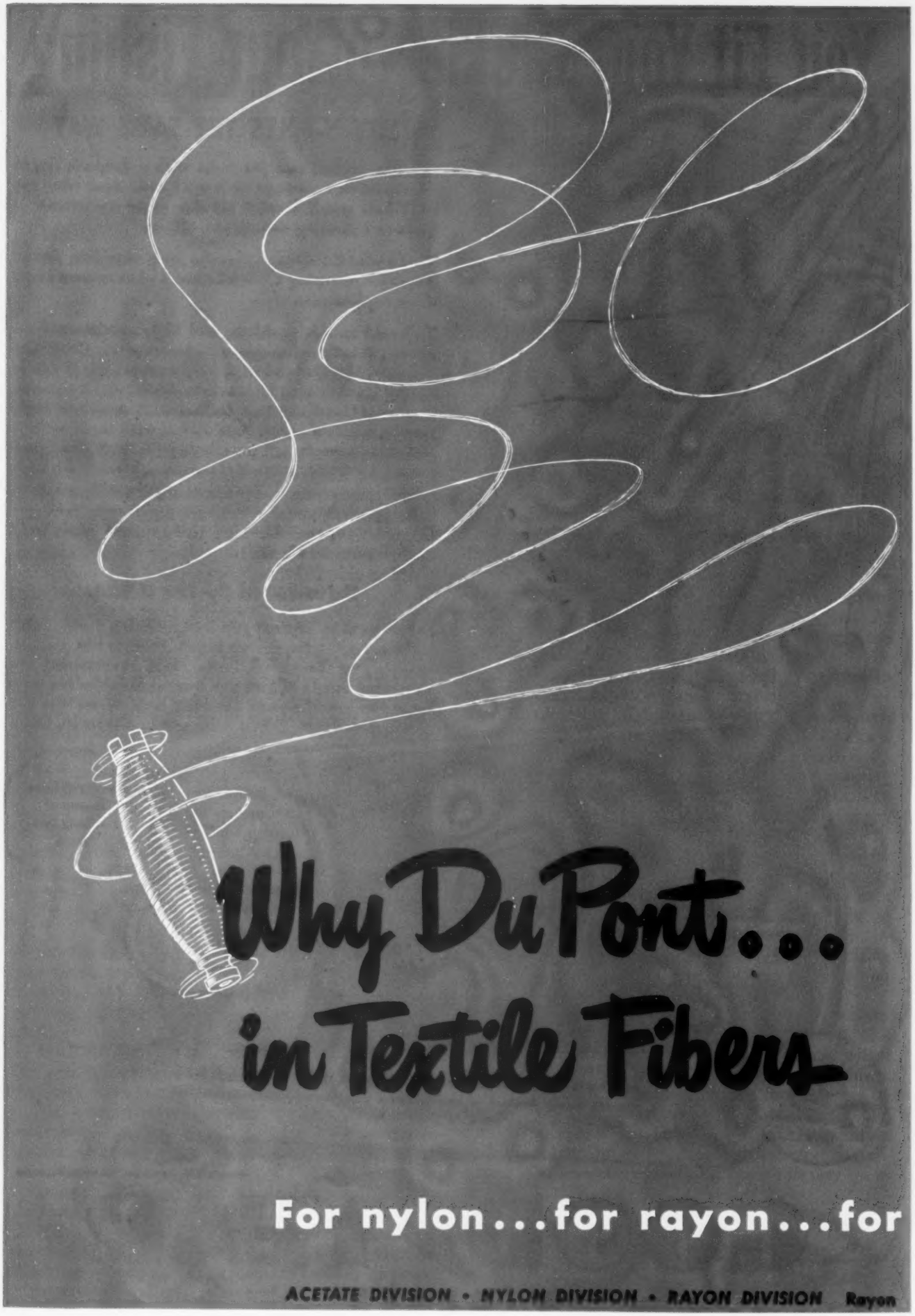
1898 GOODYEAR 50 ANNIVERSARY 1948

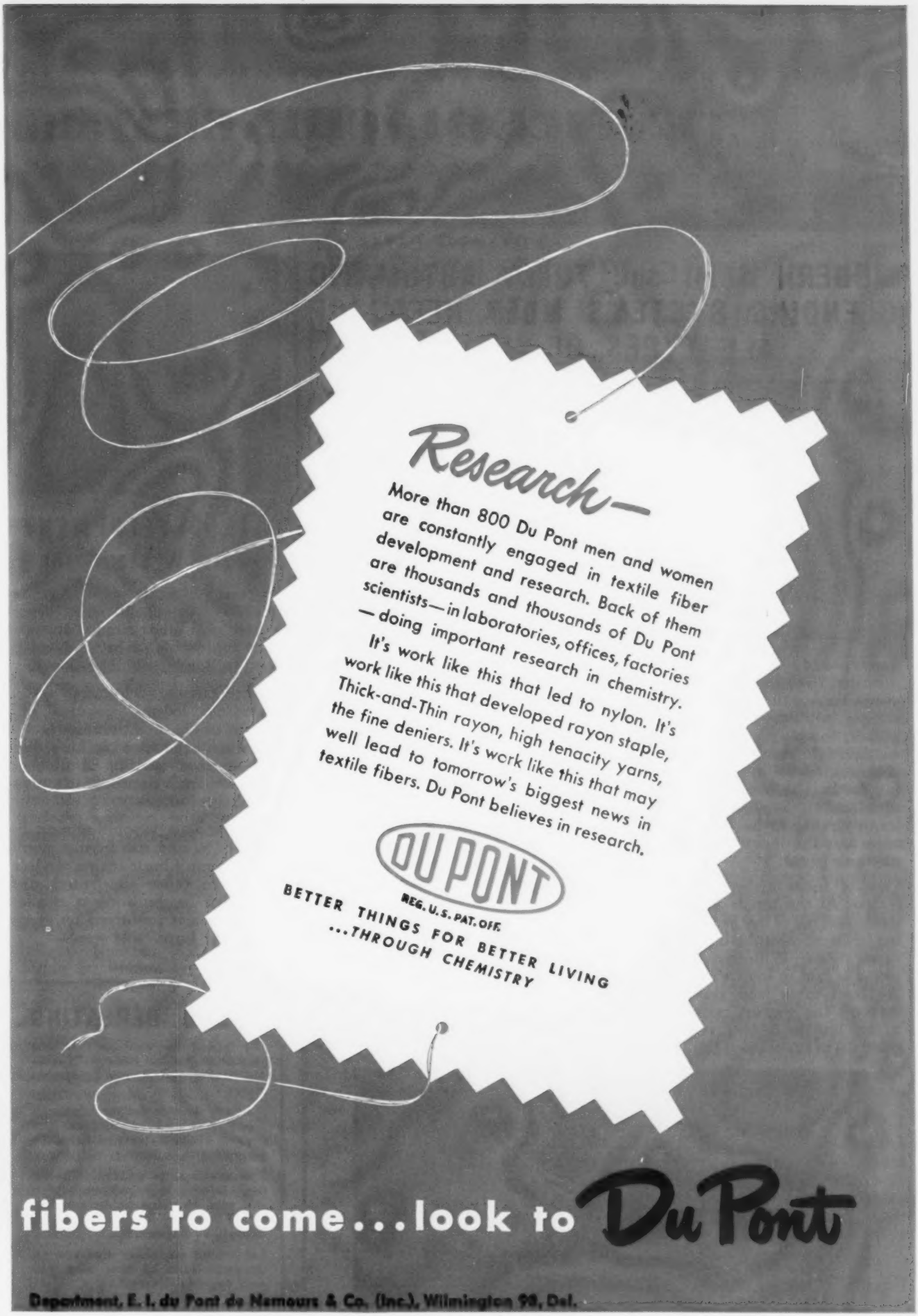
FOR BELTS, HOSE, MOLDED GOODS, PACKING, TANK LINING built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.

Compass—T.M. The Goodyear Tire & Rubber Company

GOODYEAR

V-BELTS


Why DuPont...
in Textile Fibers
For nylon...for rayon...for
ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION
Rayon

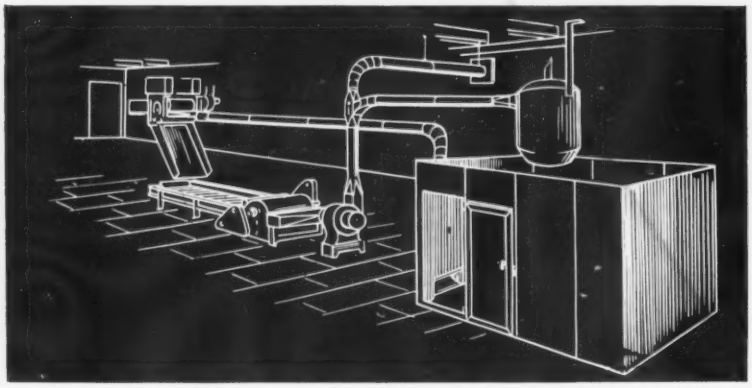

Research—
More than 800 Du Pont men and women are constantly engaged in textile fiber development and research. Back of them are thousands and thousands of Du Pont scientists—in laboratories, offices, factories—doing important research in chemistry. It's work like this that led to nylon. It's work like this that developed rayon staple, Thick-and-Thin rayon, high tenacity yarns, the fine deniers. It's work like this that may well lead to tomorrow's biggest news in textile fibers. Du Pont believes in research.
DU PONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY
fibers to come...look to Du Pont
Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del.

TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

• NOVEMBER • 1948 •

MODERN SEMI and FULLY AUTOMATIC BLENDING SYSTEMS MEET NEEDS OF ALL TYPES OF MILLS

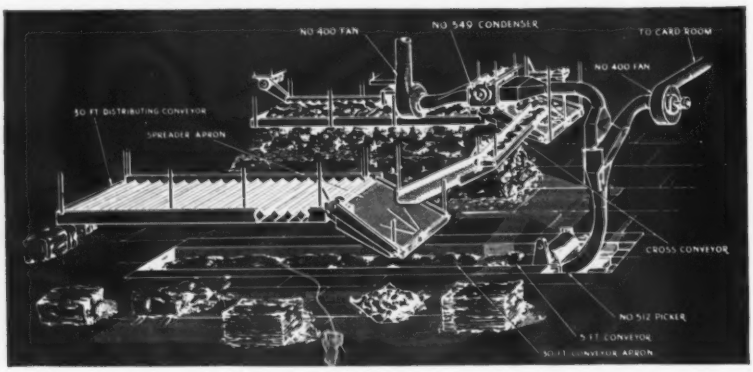


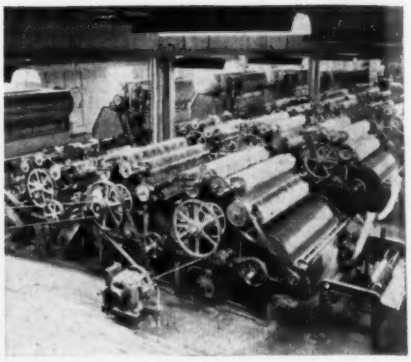
The types of systems designed and installed over the immediate past years have ranged from the most simple system—employing one picker, fed manually—up to fully automatic systems with a series of pickers, fed by automatic weighing feeds. The output needs, type of blending required, degree of labor saving to be achieved, all enter into the recommendation for any one plant.

Two of these systems are illustrated. At the top is the simplest method of all of the Proctor blending systems—employing only one super picker. With this system the blend is laid in layers by hand on the feed table and stock is run through the picker, conveyed by a fan line to a bin, where it is piled up in layers and then picked up by suction to a ceiling condenser, from which it is distributed to the feed table of the same picker for a second run, before being conveyed to the card room.

It is out of this simple system that all of the other systems have been developed. In each case the number of pickers, and degree of automatic operation are governed by individual mill requirements. Some of the large mills are finding the completely automatic systems very profitable—while other more moderate size mills have found semi-automatic systems, similar to that illustrated below, to be best suited.

Write today for the new catalog featured on the opposite page—which offers a comparison of these systems.





LATE DEVELOPMENTS Improve Waste Garnetts

Modern Proctor equipment for reworking worsted and rayon thread wastes and other similar types of stock represents the latest development in this type of machinery.

One of the many features which contribute to the general efficiency of these machines is the use of metallic wire clothing. Production and quality of finished work are both improved as a result of this feature.

These modern machines may be supplied in any size from a single cylinder machine to larger models, similar to those illustrated and may also be built as a duplex type, which is preferred by many people for hard twist waste.

WORTH REPEATING

We repeat the reminder that was carried in the last issue of "Textile Machinery and Drying Equipment News".

It has to do with delivery dates on many Proctor textile machines and dryers. Those dates are definitely beginning to improve.

The situation is somewhat better than a year ago—although it is still wise to place orders now for future delivery—for orders are still being filled in the sequence received.

Let Proctor engineers give you an accurate idea of how soon you may expect delivery.

DRYING EQUIPMENT *News*

NEW CATALOGS

highlight up-to-the-minute Drying Equipment and Textile Machinery

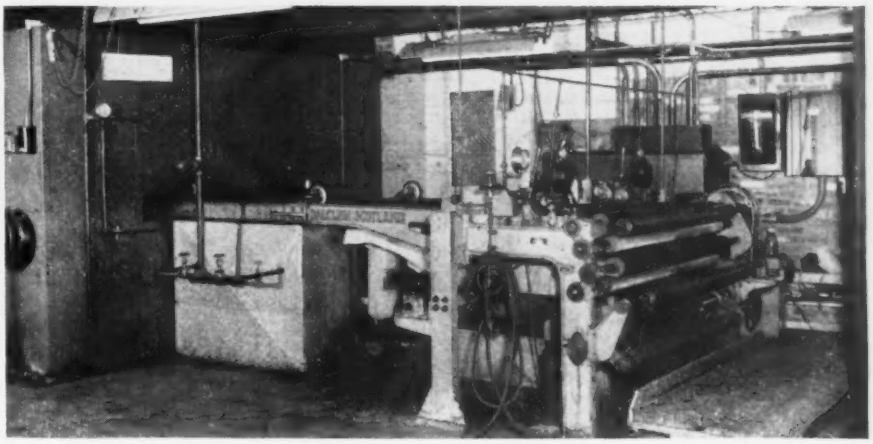
Two catalogs, just off the press, cover recent developments in both drying equipment and textile machinery.

Bulletin Number 331 "Proctor Textile Machinery" is devoted to blending equipment and systems, preparatory equipment, feeds and automatic conveying systems and modern metallic wire garnetts. Tremendous progress has been made in the development of this type of machinery in the past few years—and the latest information is assembled between the covers of this catalog.

Bulletin Number 330 "Proctor Drying Equipment for the Textile Industry" highlights much equipment that has already become more or less standard—and in addition covers such new developments as the Proctor-Leonard Rocar wool opener and the Proctor continuous open width steamer.

Each catalog is profusely illustrated with photographs and diagrammatic drawings to insure a clear conception of the equipment described. Send for either or both of these catalogs today.

DALGLISH OVERFEED PIN TENTER SCORES HIGH IN CURING RANGE



Close-up of feed end of Dalglish tenter installation.

The Dalglish pin tenter, developed by John Dalglish & Sons, of Scotland and sold in America by Proctor & Schwartz, Inc., is proving to be especially adaptable to use in the manufacture of resin treated fabrics.

Results from the first two installations, where the Dalglish tenter is part of a curing range, indicate that the performance of the machine is all that was predicted when it was first introduced to the textile industry in this country several months ago.

The quality and "hand" of the finished goods are a direct result of the perfected overfeeding device. This device enables the fabric to be fed regularly and loosely on to the pins. The amount of overfeed can be instantly adjusted by a hand-wheel arrangement. Obviously, the ability to control overfeeding fabrics to a known extent, opens up great possibilities to the finisher.

In both of these installations the Dalglish tenter is used for drying the resin treated fabric prior to curing. In one installation, resin is padded into fabric, which is then pre-dried to somewhat reduce its moisture content. The partially dried, treated fabric is then "overfed" to the Dalglish tenter and thoroughly dried. After this it is put through the curer, backwashed and finally dried. In some instances final drying may be done under controlled conditions in the Dalglish tenter, as is done in one of these two installations. It is not always essential to "predry" the goods. In such cases the material goes directly from the padder to the Dalglish tenter. Individual mill and fabric requirements govern the procedure to be followed.

Other mechanical features of the Dalglish tenter permit excellent drying results with speeds up to 80 or 90 yards per minute. Write for the descriptive folder which highlights the advantages of this modern drying system.

Proctor & Schwartz, Inc. • 710 Tabor Road • *Philadelphia 20, Pa.*

MORE

SPREAD

BARRELED SUNLIGHT Gives You up to *6 for 5

*Up to six gallons of paint spread from every five gallon can — that's Barreled Sunlight's BONUS for industrial users! Even in the "good old days", one gallon *extra* would have been BIG NEWS. Today, when practically everything you buy is premium-priced, Barreled Sunlight's extra spreading and hiding is a BONANZA for buyers and maintenance men who want top quality for their paint money at a sensible over-all cost.

Barreled Sunlight fights high costs three ways: (1) You save on its greater spread. (2) You save on the cost of a second coat because time and again one coat of Barreled Sunlight is all that's needed for repaint work. (3) You save on labor because Barreled Sunlight flows easier, brushes better.

What's more, Barreled Sunlight is W-H-I-T-E-R — both when you brush it on and throughout its longer paint life. There's no "tattletale" yellowing with age! Made by the exclusive and secret Rice Process, this quality of extreme and lasting whiteness assures superior seeing conditions for workers and hence aids output.

Protect your property and improve working conditions with Barreled Sunlight — the paint that gives you MORE from the same size can. Write U. S. Gutta Percha Paint Co., 20-K Dudley St., Providence, R. I.

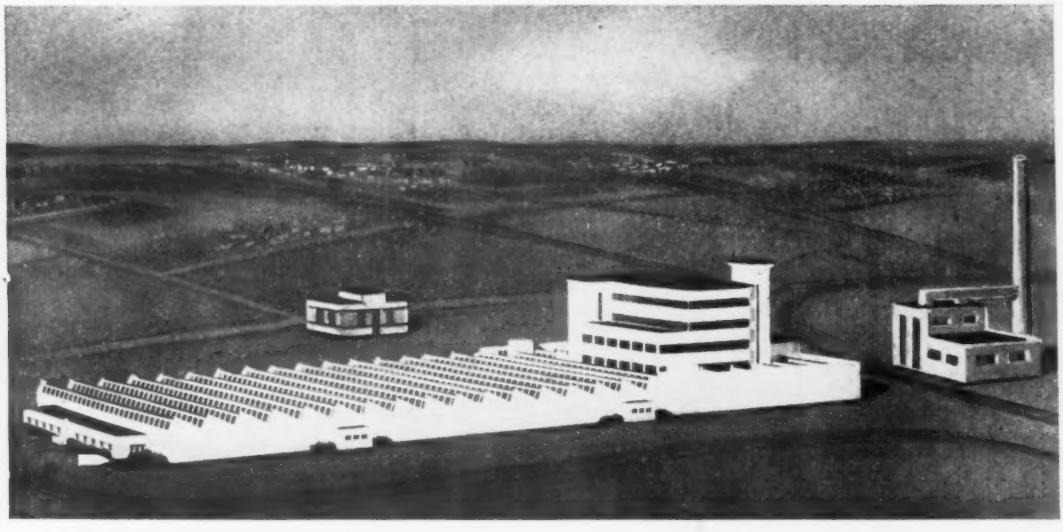
For Counsel on Paint Planning

and costs, call in the Barreled Sunlight man. He is an experienced paint technician who can help you plan the painting of every room, surface and structure in ever-popular whites that *stay* white or clean, clear, pleasing colors where they can be used to good purpose. He'll save you money from boiler room to board room and insure the A-1 job you're looking for.

BARRELED SUNLIGHT *Paints*

In whitest white or clean, clear, pleasing colors, there's a BARRELED SUNLIGHT Paint for every job

KOHORN



Egyptian Rayon Plant Starts Production

Societe Misr Pour La Rayonne, S.A.E., Cairo, the most modern plant of its kind in the world, is now producing rayon. This plant is unique because it is equipped to manufacture cellophane in addition to filament rayon and rayon staple fiber.

Completely a KOHORN project, the plant's design and chemical processes assure the more rapid and safe transformation of raw materials into high quality finished products. KOHORN rayon-producing and cellophane casting machinery give the new plant the most modern machinery available. Technical management by KOHORN experts assures efficient operation from the outset, and training for the owner's personnel.

This is one of the most extensive projects ever accomplished in the Middle East. Its completion points out the superior qualifications of KOHORN for the establishment of the additional rayon plants that world markets need . . . without delay.

COMPLETE PLANTS for Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months.

OSCAR KOHORN & CO., LTD.

EXECUTIVE OFFICES

501 FIFTH AVE. NEW YORK 17, N. Y., U. S. A.

Pioneers of the Rayon Industry

ACTUAL TORONTO STREET-CLEANING TESTS
OIL, GREASE AND GRIME
COMPLETELY REMOVED BY
0.03% NACCONOL NR SOLUTION

At City Hall

By FRANK TUMPANE

Bubble Bath Bradley

Bubble-Bath Bradley, Inc., they call him now.

Harold D. Bradley, the ebullient Street Cleaning Commissioner, went right out and gave Bayview Ave. the beauty treatment yesterday. He promised he would clear the thoroughfare of dust, grime and oil, and he did.

The big flusher started slowly down Bayview and the nozzles belched the stuff, known as Nacconol. Within feet, the stream of water blew up into bubbles which turned into suds, which swept the street clean. It foamed in great mounds upon the curbstones. Some of the mounds were more than a foot high.

Children ran to the curb and began prancing in the suds while Commissioner Bradley nodded approvingly. The Nacconol washed

THE GLOBE AND MAIL

NACCONOL* NR

AMERICA'S LEADING SYNTHETIC DETERGENT

COSTS LESS THAN SOAP
DOES MORE THAN SOAP

Let us show you how much NACCONOL NR can save on your most difficult washing job.

NATIONAL ANILINE DIVISION • ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR ST., NEW YORK 6, N. Y. • BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE. GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

* Reg. U.S. Pat. Off.

How to **WIN** with coated fabrics

A coated fabric, whether based on rubber or resins, can only be as good as the plasticizer used. Better plasticizers mean longer fabric life. With better plasticizers you WIN greater consumer preference for your product.

FLEXOL plasticizers, of which there are now nine, offer manufacturers of coated fabrics wide scope to meet the general requirements of compatability and non-volatility. In addition, each FLEXOL plasticizer, when compounded with vinyl resins, cellulose derivatives, or rubber, is outstanding in producing one or more special properties. Superior flexibility at low temperatures, mar-proofness, and long-lasting flexibility are some of the special properties easily attained through use of FLEXOL plasticizers.

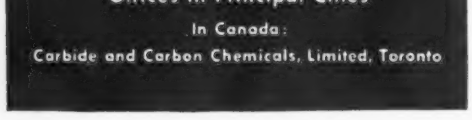
Our laboratories have prepared extensive data on the performance of FLEXOL plasticizers. The information is offered to assist you in selecting the *right plasticizer* or combination of plasticizers for your needs. Call or write our nearest office for the booklet F-5882, or for samples and prices.

"Flexol" is a registered trade-mark of C&CCC.

CARBIDE and CARBON
CHEMICALS CORPORATION

Unit of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York 17, N. Y.

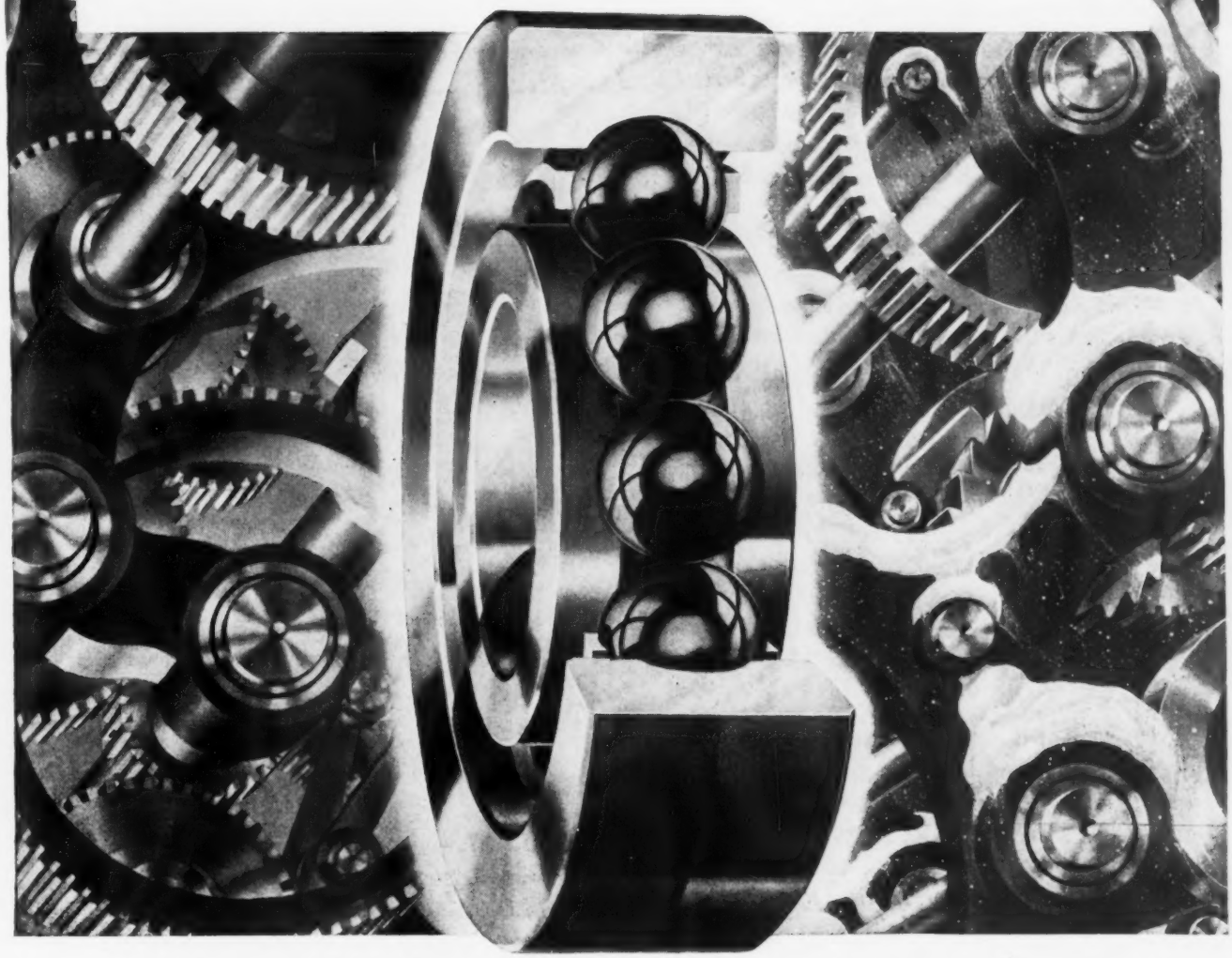


Offices in Principal Cities
In Canada:
Carbide and Carbon Chemicals, Limited, Toronto

Flexol
Trade-Mark
PLASTICIZERS
DOP
3GH
3GO
4GO
TOF
8N8
B-400
TWS
R-1
Here's good news: — FLEXOL Plasticizer DOP — the most important, all-around plasticizer for the vinyl chloride resins—is better than ever. New plant facilities have made possible a substantially colorless product. Samples of the new FLEXOL Plasticizer DOP for your evaluation will be supplied on request.

How to Keep Your Bearings

in a Furnace . . . or a Freezer!



New Lubricants by Socony-Vacuum Meet Extreme Conditions

You'll find the worst weather in the world in modern industry . . . from sizzling hot spots of 300 and 400°F., to chilling cold far below zero.

To protect bearings under these extreme conditions, Socony-Vacuum has developed two new special lubricants. Gargoyle Grease BRB Hi-Temp resists deterioration on bearings inside kilns, ovens, driers and other hot spots. Gargoyle Grease BRB Zero remains soft, resists drag on bearings in cold storage and pre-cooler rooms and outdoors in Arctic weather. It still gives satisfactory service at normal temperatures.

Here again is another example of our Complete Lubrication Service for your plant—service that has grown through 8 years' experience to help you keep your bearings.

Socony-Vacuum

Correct Lubrication

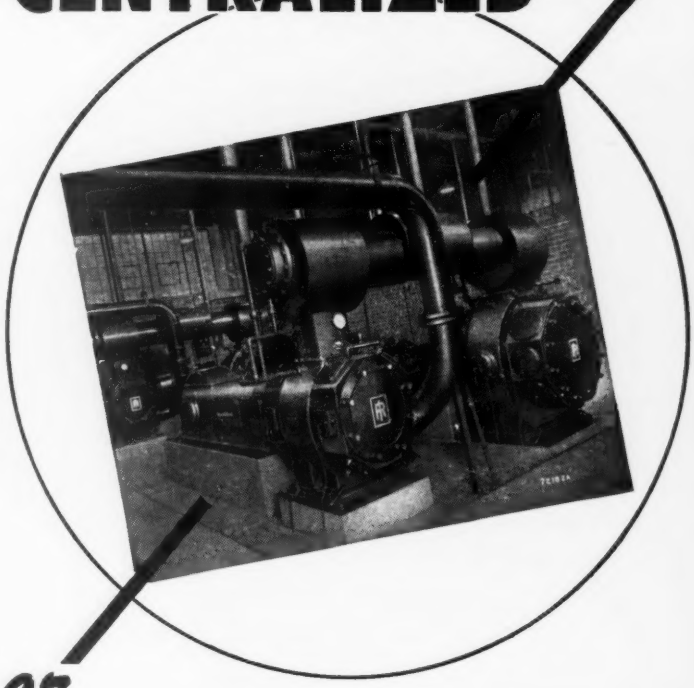
SOCONY-VACUUM

GARGOYLE

Lubricants

SOCONY-VACUUM OIL CO., INC., and Affiliates
MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP

Should your **AIR-POWER** *system be* **CENTRALIZED**



or

DECENTRALIZED?

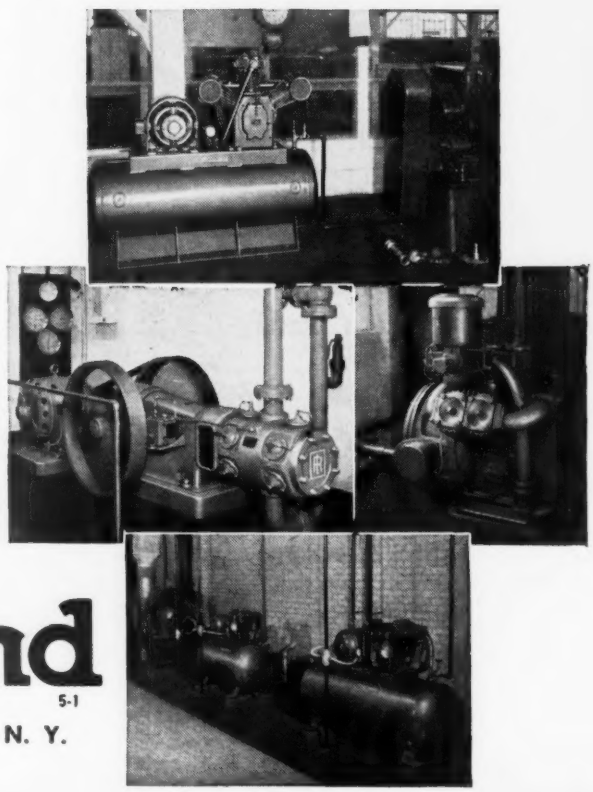
If you have a shop where you need Air Power at scattered or isolated spots, your first impulse may be to install a decentralized source of Air Power . . . a small compressor at each location. But before doing this, consider these points:

Flexibility — **Load Factor**
Power Rate — **Piping System**
First Cost — **Attendance**
Installation — **Maintenance**

For example, during certain hours, seasons, or cycles, the maximum demand for air may shift from one part of your plant to another. If you had a central compressor plant with an adequate piping system, the full capacity of your entire plant could be made available to *any* section of the shop at *any* time. You may find that part of shop should have a centralized system, the other decentralized, or a combination of both systems.

• • •

When you plan a new plant or an extension, or feel that it's time to modernize your system, call in an Ingersoll-Rand engineer. He's an Air-Power Specialist, and represents a company that builds a complete line of compressors...for centralized, decentralized, or combination systems . . . sizes from ½ to 3000 horsepower . . . air-cooled and water-cooled types . . . pressures from vacuums to 15,000 psi. . . . drives by electric motor or built-in steam, gas, or diesel engines.



COMPRESSORS • AIR TOOLS • ROCK DRILLS
TURBO BLOWERS • CONDENSERS
CENTRIFUGAL PUMPS • OIL AND GAS ENGINES

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

5-1

SANDOZ PRESENTS

The color achievement of the month

Band Music

. . . BY CEREY

A rich harmony of color tones promises to put this great-dress at the top of the season's hit parade. It's a Kane-Weill original, created from 100% pure wool woven into large bands of claret-red, beige and earth-brown by Cerey Woolens, Inc., one of the many leading names in fashion among Sandoz customers.

Heavy shades like these require the use of the best chrome dyes that will stand mill fulling without bleeding. For such purposes, the following Sandoz dyes are outstanding.

METOMEGA CHROME BORDEAUX 2BL
METOMEGA CHROME BROWN RLL
METOMEGA CHROME YELLOW ME

Their excellent fastness to carbonizing also assures the dyer that the finished piece will meet the designer's color specifications. And the ultimate wearer can be sure of the garment's fastness to sunlight, weather, perspiration and dry cleaning.

It is for such reasons that Sandoz colors are used in so many of the fabrics — gowns and carpets, upholstery and suitings — that find their way to the best-seller list.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. • Other branches at Providence and Paterson.

SANDOZ *thinks ahead with textiles*

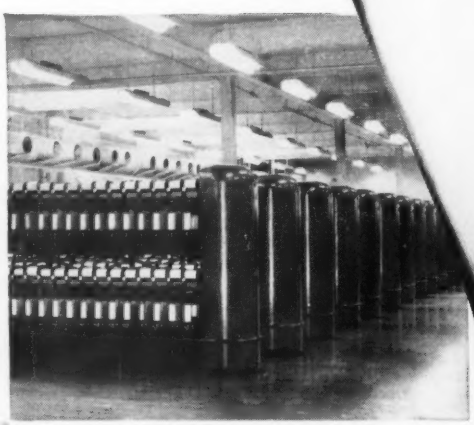
SANDOZ

Most popular pair

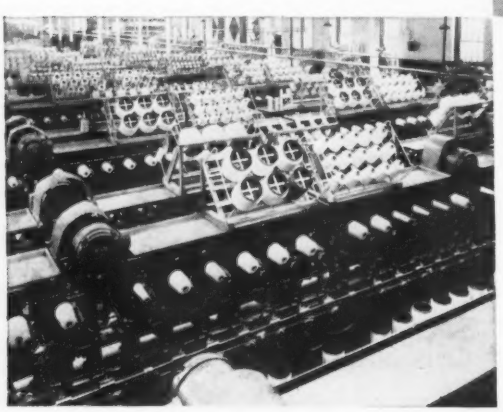
in Nylon Throwing

because *Atwood* Model 200 Redraws produce bobbins of proper density and wind at high rates of yards per minute . . .

because *Atwood* Up-Twisters produce uniformly-twisted bobbins at high speed, using bobbin hangers that insure positive alignment between cork roller and take-up bobbin . . .



Atwood Model 110's up-twisting nylon from Atwood Model 200 Redraw spools



Universal No. 50 producing pineapple cones from Universal 250B Sizing Tubes

because *Universal* No. 250B Sizing Machines produce uniformly-sized tubes with a more open construction for faster drying and tapered selvedges for free delivery to the coner . . .

And *Universal* No. 50 Winders produce pineapple cones of the ideal shape for delivery to the knitting machines . . .

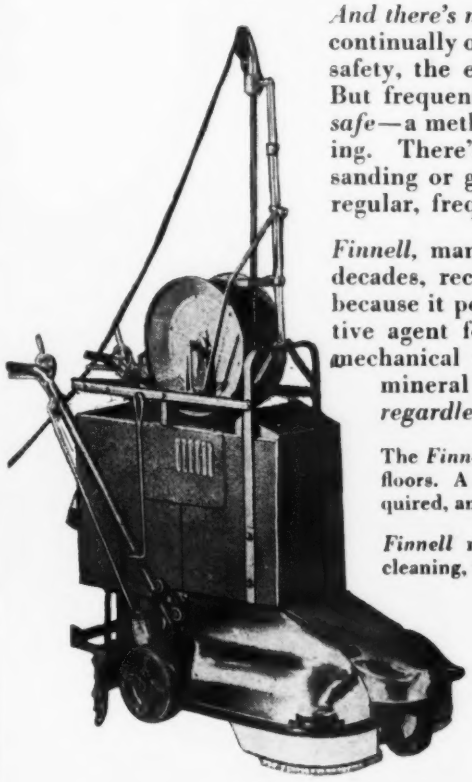
Universal, with its Atwood Division, builds a complete line of throwing machinery.

More Universal-Atwood equipment is used for throwing nylon yarn than all other types of machinery combined!

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Altanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland. Agents in every principal textile center throughout the world.

There's No Substitute for It!



And there's no substitute for wet-scrubbing oily wood floors! Where oil drops continually on floors, as in textile mills, *frequent cleaning is essential.* Worker safety, the elimination of fire hazards, and good housekeeping require it. But frequent cleaning calls for care in selecting the method. It should be *safe*—a method that won't injure floors regardless of the frequency of cleaning. There's a time and a place for occasional reconditioning of floors by sanding or grinding down the floor surface, but that is no substitute for a regular, frequent cleaning schedule as required in textile mills.

Finnell, manufacturers of floor-maintenance equipment for more than four decades, recommends wet-scrubbing for cleaning oily wood floors. First, because it permits the use of a fast-acting mineral oil solvent, the most effective agent for emulsifying grimy oil and grease for speedy removal with mechanical equipment. Second, because wet-scrubbing with a fast-acting mineral oil solvent, such as *Finnell's Setol,* is *thoroughly* safe for floors *regardless of the frequency of cleaning.*

The *Finnell* illustrated at left is a *Self-Propelled Scrubber-Vacuum* for use on large-area floors. A complete cleaning unit *all in one,* it applies the cleanser, scrubs, rinses if required, and picks up. Has *silent* vacuum. Cleans up to 8,750 sq. ft. per hour!

Finnell makes equipment for dry-scrubbing as well as wet-scrubbing, and for dry-cleaning, waxing, and polishing; also a full line of *Cleansers, Sealers, Waxes, Steel-Wool Pads, Mop Trucks,* and other accessory equipment. And there's *a Finnell man nearby* to help train your maintenance operators in the proper use of *Finnell Equipment and Supplies.*

For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1911 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

Everything FINNELL for Floor Care

FINNELL SYSTEM, INC.

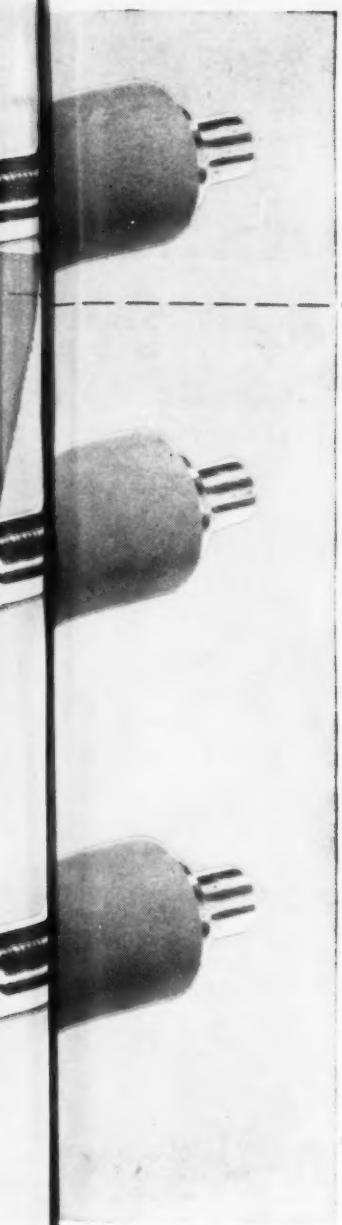
Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

ARMSTRONG'S ACCOTEX COTS

CORK COTS • ACCOTEX APRONS • ROLL SHOP EQUIPMENT



Accotex NC-727 Cots have rubber's toughness and cork's grip

YOU get longer spinning service—and consistently high yarn quality—when you run on Armstrong's NC-727 Accotex® Cots. They maintain a good drafting surface longer than "straight" synthetic covers because they combine the advantages of both synthetic rubber and cork.

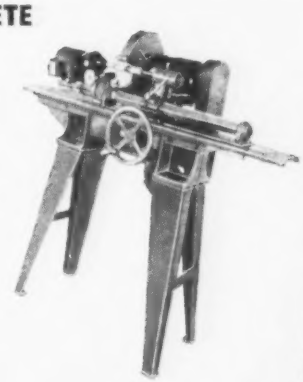
Specially compounded synthetic rubber gives this Accotex Cot its toughness. High-friction cork provides better drafting with high yarn strength and resistance to glazing. The frequent rebuffing that shortens cot life is not necessary when you equip your frames with Accotex Cots.

This combination of synthetic rubber and cork also gives you other spinning advantages. Accotex NC-727 Cots resist slicking, so they eyebrow less. They recover quickly from hard ends. Accotex Cots tend to repel textile fibers and are non-sweating. And since they can be rebuffed as many as five or six times, they give you that many extra full service lives.

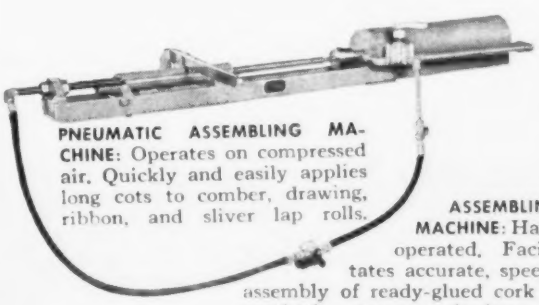
These are a few of the reasons why Armstrong's Accotex Cots are now serving more spindles than any other roll covering. Your Armstrong representative will gladly help you arrange a test installation of Accotex Cots. Ask him for samples, prices, and any additional information you may want. Or write today to Armstrong Cork Company, Textile Products Dept., 8311 Arch St., Lancaster, Pa. Accotex Cots are available for export.

ROLL COVERING SERVICE THAT'S COMPLETE

You can get everything you need for complete roll covering service from your Armstrong representative. He can supply not only all three modern types of covers—cork, cork-and-rubber, and straight rubber—but also the roll shop equipment required to apply and service them.

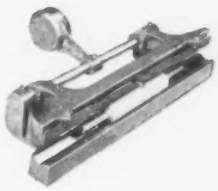


BUFFING MACHINE: Precision-buffs all modern types of cots. Adjustable for all lengths and diameters of rolls ordinarily used in modern textile mills.



PNEUMATIC ASSEMBLING MACHINE: Operates on compressed air. Quickly and easily applies long cots to comber, drawing, ribbon, and sliver lap rolls.

ASSEMBLING MACHINE: Hand operated. Facilitates accurate, speedy assembly of ready-glued cork or synthetic cots to spinning and card room rolls. Takes cots up to 4½".



ROLL RESTING GAUGE: A paralleling device used to guide the setting of the buffing machine and to check trueness of rolls after they have been buffed.

HYCAR AMERICAN RUBBER LATEX...

a new material for impregnating and coating fabrics, fibres, and threads

HYCAR latex, when used as a coating or impregnant for even inexpensive materials, imparts many desirable properties not easily obtained with other coatings and impregnants.

For example, high resistance to oils, chemicals, abrasion, and flexing—to name a few—are added in very desirable degrees by HYCAR latex, used as an impregnant or a coating. And HYCAR-impregnated materials may then be coated with any one of a number of other materials to impart additional properties.

All of this can be done, safely and simply, with HYCAR latex, because it's an inherently easy and safe material to handle. No vulcanization is required. Normal drying times are used. No explosive solvents need be handled. Nor is there any need for cumbersome and costly solvent recovery systems.

We would be glad to work with you on any problems relating to the use of HYCAR American rubber latex. For more information write Dept. HL-6, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio.

Hycar

Reg. U. S. Pat. Off.

American Rubber

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

Read "ALUMINUM IN THE TEXTILE INDUSTRY"

Learn HOW NEW USES OF ALUMINUM CAN SOLVE YOUR PROBLEMS AND PRODUCE GREATER PROFITS.

REYNOLDS OFFERS YOU THIS VALUABLE BOOK FREE

TELLS ALL ABOUT MECHANICAL AND PHYSICAL PROPERTIES.

MANY NEW PRACTICAL ADVANTAGES YOU CAN USE RIGHT NOW.

WELL ILLUSTRATED... SOUND AND AUTHORITATIVE. EVERYONE IN THE TEXTILE FIELD SHOULD HAVE A COPY.

PACKED with information, clearly written, this new book from Reynolds Metals Company tells how aluminum can work for you for more profitable production. There are numerous examples and illustrations of aluminum uses already at work . . . bringing new savings to the textile industry. Based on recently compiled technical data, you'll find "ALUMINUM IN THE TEXTILE INDUSTRY" interesting and informative.

You can have this book free by sending your request at once. We want its vital facts to reach everyone quickly. To insure receiving your copy, send your request now.

REYNOLDS METALS COMPANY
Industrial Machinery Division
310-A Hanna Building, Cleveland 15, Ohio

Gentlemen:
Please send my free copy of your new book, "Aluminum in the Textile Industry."

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Company_____ Title_____
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IF YOU SEE RUST YOU KNOW IT'S NOT ALUMINUM

REYNOLDS METALS

REYNOLDS Lifetime ALUMINUM

REYNOLDS PIONEERING MADE ALUMINUM COMPETITIVE . . . TAKE ADVANTAGE OF IT!

FOR YOUR INFORMATION

Woolen and worsted spinners adopt SYTON to lower production costs!

More and more mills are adopting Syton . . . confirming Monsanto's basic leadership in inventing and developing silica sols for spinning.

Syton's advantages stem from 10% to 30% increased yarn strength in woolens *and* worsteds!

FASTER PRODUCTION Because of increased yarn strength, the amount of twist can be reduced and production thereby speeded.

LOFTIER YARNS Less twist means loftier yarns, with tensile strength equal or better than the strength of untreated yarns of higher twist.

FINER YARNS WITH ALL GRADES Higher counts—closer to limit spin—for all grades of stock can be attained with Syton-treated yarns.

FEWER ENDS DOWN Reductions in ends down range from 25% to 50% depending on the grade of wool.

BETTER SPINNING EFFICIENCY Syton produces more uniform yarn with less beard and thin spots, reduced fly waste, and better drafting.

We have reports from many mills that confirm these advantages . . . a very practical reason why you should look into Syton now. For information and technical help, just check the handy coupon at 1.

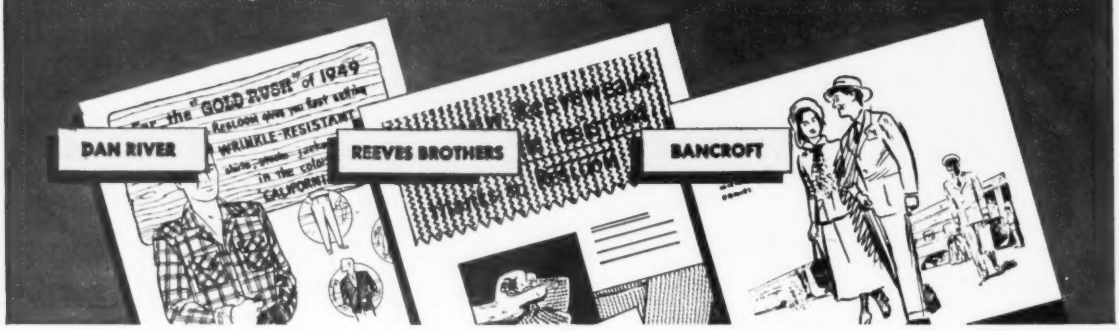
A retail success Important to MILLS
WRINKLE-RESISTANT cotton . . . with RESLOOM

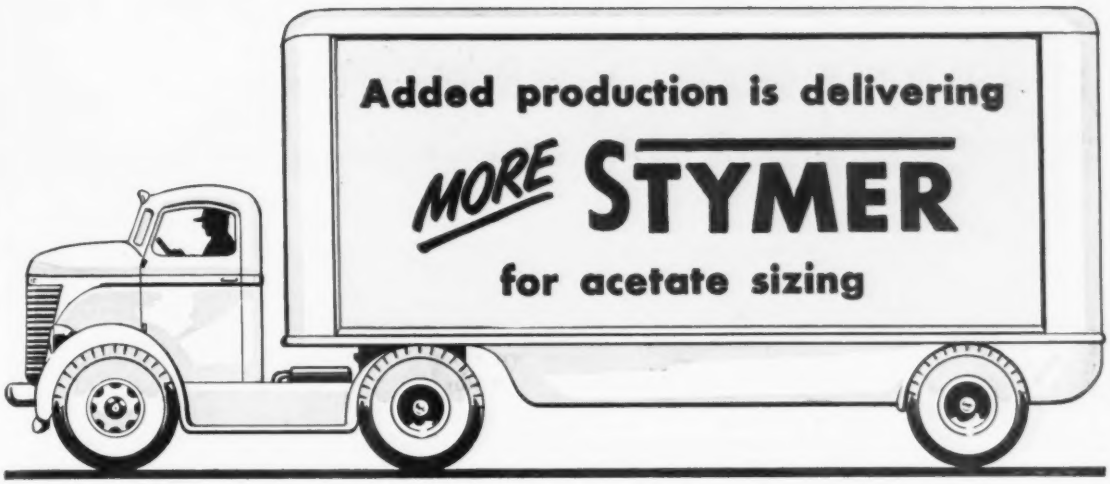
Farsighted cotton men are taking a long look at the retail market where Resloom wrinkle-resistance is a new, extra sales feature that's moving goods faster. The conclusion is plain:

Wrinkle-resistance is a new sales plus for mills . . . as well as for their customers. And wrinkle-resistance becomes a sales *must* when the market changes and consumer resistance is up!

All the wrinkle-resistant cottons on the market today are achieved with Monsanto's Resloom. Doesn't that suggest the easiest way to give your fabrics this sales advantage? For information and technical help with Resloom just send the handy coupon checked at 2.

RESLOOM is proved on the market by these cottons advertised by:





Just a few months after Stymer passed its first mill trials, demand outstripped supply. Mills tried it, liked it . . . and waited for it. We're thankful for their patience and glad to report substantial new production facilities. Now partly-filled orders will become fully-filled orders. And Stymer will be available to additional mill users desiring a fine, new sizing agent which gives outstanding practical results in slashing acetate warps.

What STYMER offers

1 **EASILY APPLIED** in a uniform coating on the individual yarn.

2 **ADHERES** well to the fiber.

3 **EASY TO SCOUR** from the woven fabric in warm water containing alkali and a detergent.

4 **REDUCES STATIC**

5 **FILM SHOWS** exceptional strength, abrasion resistance, smoothness and flexibility.

IN SLASHING, Stymer does not stick to uncovered dry cans, eliminates static electricity, separates easily at the lease rods and does not gel in the pipes or size box.

IN WEAVING, the Stymer-sized warps exhibit little or no shedding, maintain yarn twist, have fewer end breaks and produce a more uniform fabric. For information just send the handy coupon checked at 3.

Syton, Resloom, Stymer: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS ··· PLASTICS

MONSANTO CHEMICAL COMPANY, Textile Chemicals Department
Desk TWT-11, 140 Federal Street, Boston 10, Mass.

Please send me information on, ☐ *1,* ☐ *2,* ☐ *3.*

Name _____ Title _____

Firm _____

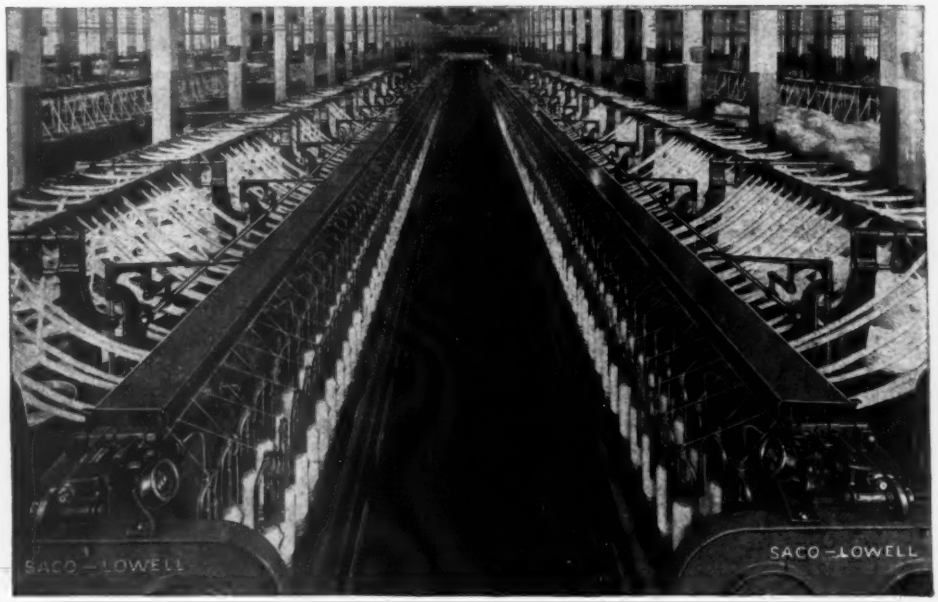
Address _____

City _____ State _____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

TIME-TESTED and MILL-PROVEN...

the Saco-Lowell J-3 Controlled Draft Roving Frame continues to meet the higher standards of uniformity, evenness and economy



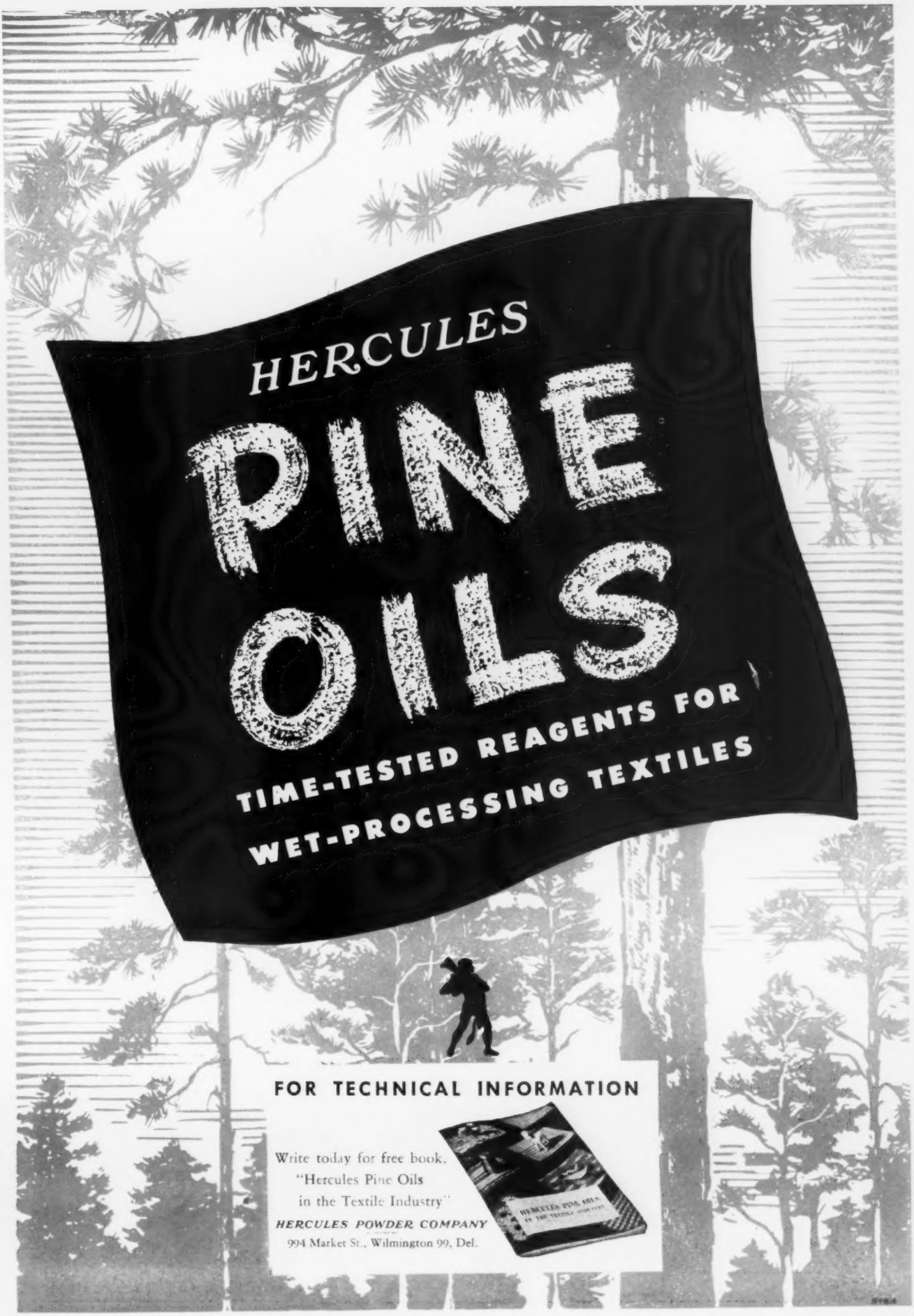
Its simplicity of design, ruggedness of construction, efficient operation and low maintenance cost make it a profitable investment in these and many other mills:

Abbeville Cotton Mills
Alice Manufacturing Co.
Bemis Cotton Mills
Brandon Corporation
Calhoun Mills
Cannon Mills Co.
Carolinian Mills
Celanese Corp. of America
Chicopee Mfg. Co. of N. H.
Clinchfield Manufacturing Co.
Crown Cotton Mills
Dallas Cotton Mills
Dominion Textiles Co., Ltd.
Firestone Cotton Mills
Glendale Spinning Mills
Henrietta Mills
Imperial Cotton Mill
Joanna Textile Mills Co.
Louisville Textiles, Inc.
Merrimack Manufacturing Co.
Monarch Mills
Mooresville Cotton Mills
Muscogee Manufacturing Co.
Pacific Mills — Olympia Plant
Proximity Manufacturing Co.
Swift Spinning Mills
Whitney Manufacturing Co.

Special Catalog available describing Model J-3
Write our nearest Sales Office

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD, MAINE
SALES OFFICES: CHARLOTTE • GREENVILLE •, ATLANTA


HERCULES
PINE
OILS
TIME-TESTED REAGENTS FOR
WET-PROCESSING TEXTILES
FOR TECHNICAL INFORMATION
Write today for free book,
"Hercules Pine Oils
in the Textile Industry"
HERCULES POWDER COMPANY
994 Market St., Wilmington 99, Del.

"TEXROPE Vari-Pitch Boosted Our

CARON SPINNING CO., ROCHELLE, ILL. Vari-Pitch Speed Changers driving a line of spinning frames. A total of 22 Vari-Pitch Speed Changers has been installed since the original order in 1943. Ralph Finkboner, spinning room foreman, says, "Vari-Pitch Speed Changer is the best on the market."

Texrope and *Vari-Pitch* are Allis-Chalmers trademarks.

SPEED CHANGERS "Production" –SAYS MILL FOREMAN

WHEN TEXROPE Vari-Pitch Speed Changers replaced another type of drive in this Illinois worsted mill, production on the spinning frames shot upward. Speed could be adjusted while the machines were running, adding valuable production time. Frames could be operated at highest production rate because speed could be regulated accurately to within a few RPM at the turn of a handwheel. The initial installation was so profitable that Texrope Vari-Pitch Speed Changers drive all spinning frames in this mill.

Texrope Vari-Pitch Speed Changers give you smooth power and infinitely variable speeds over a range of 375%. Simple design and Texrope V-belt drive make them clean running and easy to maintain. Texrope Vari-Pitch Speed Changers will save you money wherever close speed control and quick speed changes are required.

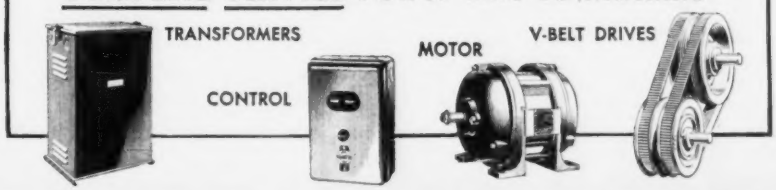
CONSULT ALLIS-CHALMERS ON ALL YOUR DRIVE NEEDS

Many variable speed drive problems can be solved efficiently and economically with Vari-Pitch Standard or Wide Range Sheaves. These are available with Motion Control which permits speed to be adjusted while the machine is operating, and Stationary Control which requires that the machine be stopped for adjustment. Consult your Allis-Chalmers Authorized Dealer or District Office.

ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

A 2539

COMPLETE SERVICE *Power Line to Machine*



ALLIS-CHALMERS

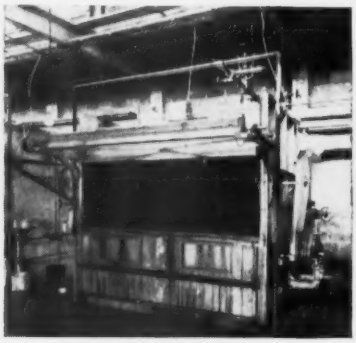
Originators of the Multiple V-belt Drive for Industry

The Fleet Line

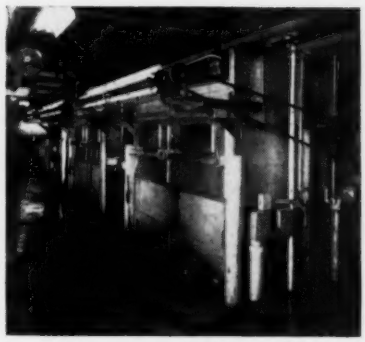
TLBT PIECE DYEKETTLE

An Extremely VERSATILE Machine

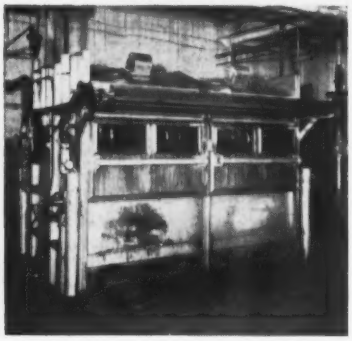
Plushes At
A New England Mill



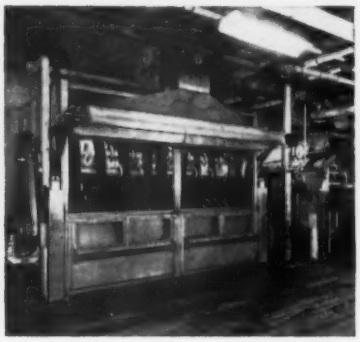
Men's Wear At
Lymansville Co.



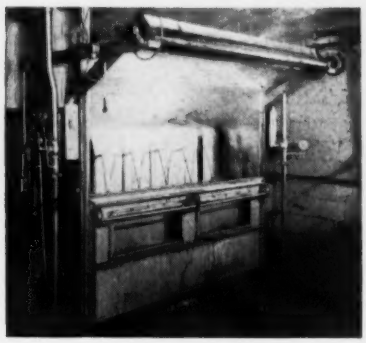
Women's Wear At
Gonic Manufacturing Co.



Heavy Knitted Fabrics At
Draper Brothers Co.



Heavy Woolens At
Putnam Woolen Corp.



Blankets At
North Star Woolen

OTHER ADVANTAGES

- Tangles, tie-ups, wrinkles, creases and dye streaks virtually eliminated.
- Knurled drum reel absolutely eliminates slip, even on rayon gabardines.
- Dyestuff savings up to 10% compared with other stainless kettles, much more with wooden types.

RIGGS AND LOMBARD

FOOT OF SUFFOLK STREET — INCORPORATED — LOWELL, MASSACHUSETTS

DOMESTIC AGENTS: Paul A. Merriam, 1491 Broad Street, Providence, R. I. • Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa. • Charles H. Dunker, 701 7th.Street, Coronado, California.

EXPORT AGENTS: Latin America — Meyer, Lyra & Co., 228-229 Fulton St., N. Y., N. Y. • Balkan States, Egypt, Palestine, India — Arlind Corp., 509 Madison Ave., N. Y., N. Y. • South Africa — Noel P. Hunt Pty, Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y.

THE FLEET LINE OF FINISHING EQUIPMENT

CLOTH WASHERS, BATCH AND CONTINUOUS • FULLING MILLS • PIECE DYE KETTLES • DYE BECKS • ROPE SOAPERS
CLOTH CARBONIZING RANGES • SOAPING MACHINES • DERBY CONTINUOUS DRY CLEANERS • TENTER DRYERS
STOCK DYE KETTLES • ROLLS • MULTI-LAP CONTINUOUS PROCESS MACHINES • TOP DYEING MACHINES
CRUSHERS • REELS • PARTS

The Reason for Florence Tailored Color:

TO MAKE YOUR END PRODUCT BETTER!

Your intent, naturally, is to make the best product possible for your customers so that they will buy and you will profit. Make a better product by using *Florence Tailored Color.* Color is our business and color we know. *Tailored Color* comes from our processing of cotton, wool, synthetic or blended yarns by special laboratory and technical methods to give you the exact color you specify, the exact fastness you specify, and the quality you require. The reason for *Tailored Color* and the reason for its acceptance, is because it *does* enable you to make a better end product. We *Tailor Color* yarn either supplied by you or obtained by us.

Use *Florence Tailored Color* beginning today.

FLORENCE THREAD CO., INC.

ESTABLISHED 1894

Fairview Street, Riverside, New Jersey—Phone Riverside 4-0211

New York Sales Office: 55 W. 42nd Street, New York 18, N. Y.

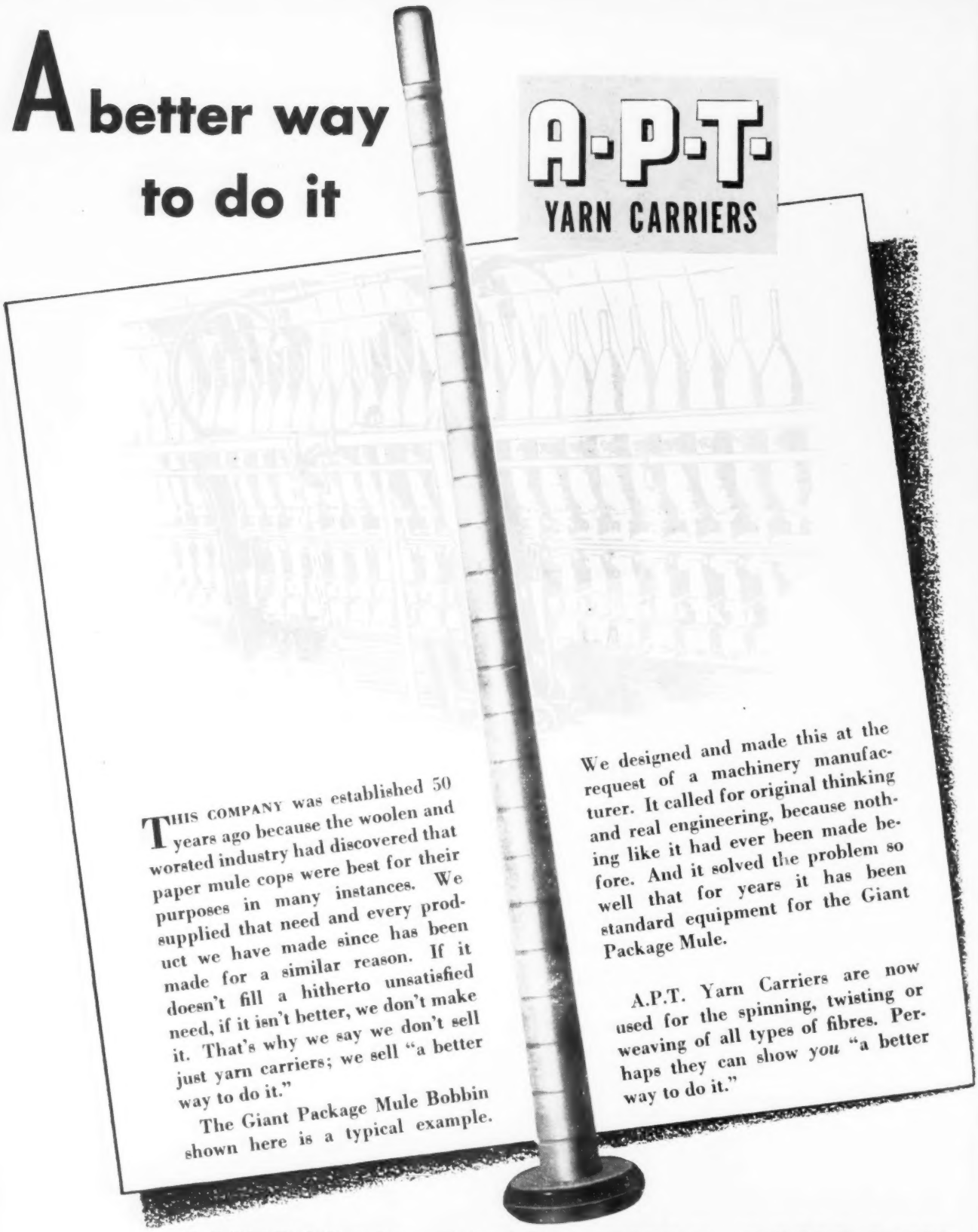
Package Dyers and Processors of Cotton, Wool, Synthetic and Blended Yarns

Processors and Distributors of "USTEX"* Industrial Sewing Threads

*Trade Mark Registered U. S. Pat. Off. By United States Rubber Company

A better way to do it

A.P.T. YARN CARRIERS



THIS COMPANY was established 50 years ago because the woolen and worsted industry had discovered that paper mule cops were best for their purposes in many instances. We supplied that need and every product we have made since has been made for a similar reason. If it doesn't fill a hitherto unsatisfied need, if it isn't better, we don't make it. That's why we say we don't sell just yarn carriers; we sell "a better way to do it."

The Giant Package Mule Bobbin shown here is a typical example. We designed and made this at the request of a machinery manufacturer. It called for original thinking and real engineering, because nothing like it had ever been made before. And it solved the problem so well that for years it has been standard equipment for the Giant Package Mule.

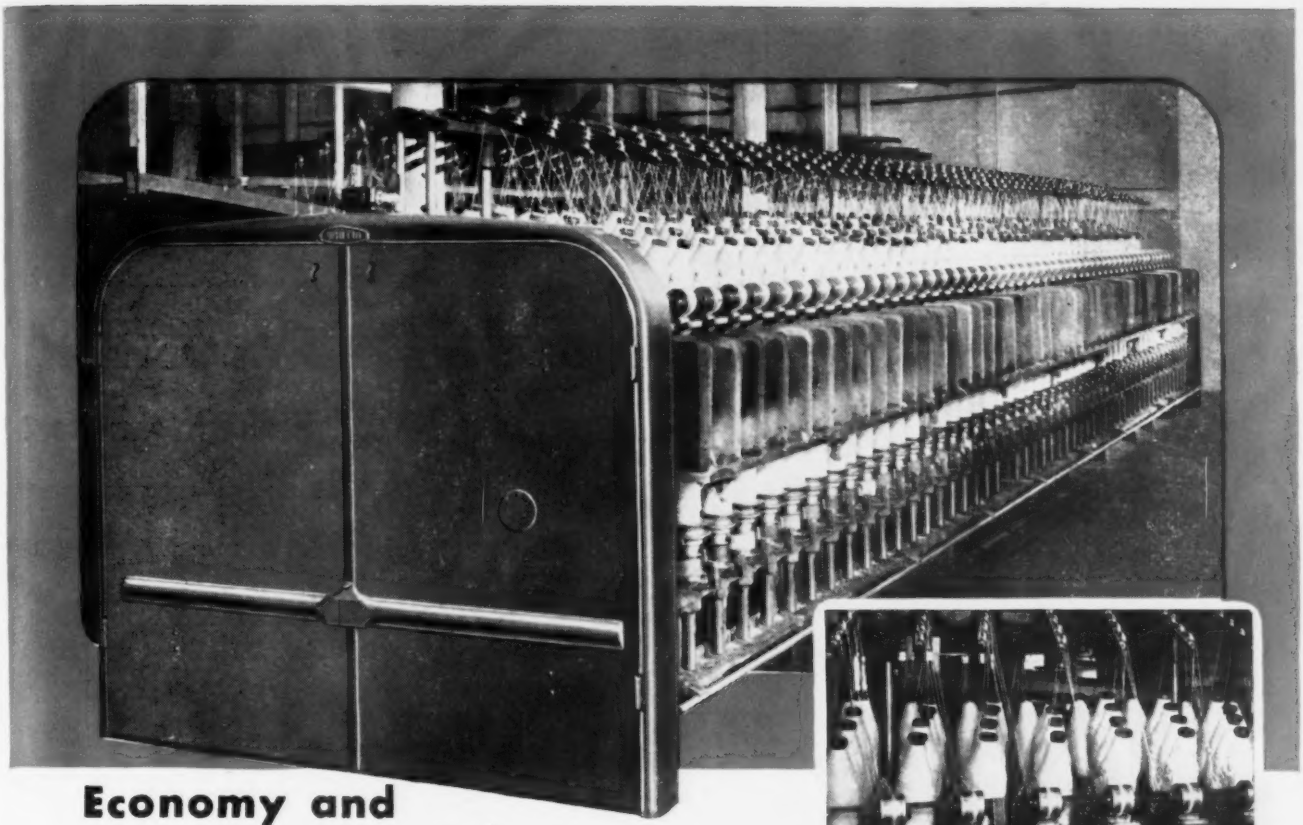
A.P.T. Yarn Carriers are now used for the spinning, twisting or weaving of all types of fibres. Perhaps they can show *you* "a better way to do it."

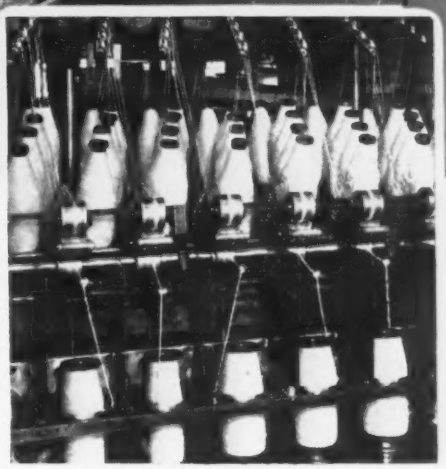
AMERICAN PAPER TUBE COMPANY

ESTABLISHED 1898

WOONSOCKET, R. I. GREENVILLE, S. C.

SALES OFFICES IN NEW YORK AND CHICAGO





Economy and Ease of Operation Feature the

WHITIN Model "K"

Selective Type Trap Twister

For modern large package twisting, more and more of today's Woolen and Worsted mills — particularly carpet and papermakers' felt mills — are using Whitin Model "K" selective type Trap Twisters with marked success, both from the standpoint of economy and ease of operation.

These 7½" gauge twisters have individual control on each component yarn, resulting in all knots being in the single yarn, thereby eliminating ply knots. The two spindle 2" tape drive assures positive and uniform twists. Ample creel space is provided for the twisting of 2, 3 and 4 ply yarns from cops, mule and frame bobbins. 6" rings and 9¾" traverse produce a twister spool holding from 36 to 42 ounces of yarn depending on the number of plies and turns of twist.

The Model "K" Twister has special auto-lubricated rings which assures long life to rings and travelers at high spindle speeds. The sturdy ring rail is vibration-free and the whole machine is built low, permitting easy access to the creel by the operative.

Photos Courtesy of Alexander Smith & Sons Carpet Co., Yonkers, N. Y.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA.

Proper Carding Benefits the Whole Mill

with TUFFER CARD CLOTHING

You Get Production Off to the Right Start

The Tufferizing Process— developed and exclusively owned and used by Howard Bros.— cuts and forms wires with an accuracy never before obtained in the making of card clothing. The wires are formed with precision and placed accurately in the famous Tuffer Foundation . . . when drawn on the cylinder they fit snugly — *sides perfectly parallel and every point in place.*

WITH precision-made Tuffer Card Clothing on your cards, you get production off to the right start—raw stock losses are reduced to a minimum and the fine, even web, so necessary for spinning and weaving, is obtained.

Wise management realizes that the money invested in maintaining its card clothing at top efficiency pays off profitably in high quality production and economical operation. The benefits derived from proper carding are felt throughout the entire mill.

Talk over your carding problems with a Howard Bros. representative. You'll find it will prove worth while.

HOWARD BROS. MFG. CO.
WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas
Direct Representation In Canada

A-7

TUFFER CARD CLOTHING *IMPROVES PRODUCTION ALL ALONG THE LINE*

THEN, AS NOW, COLOR SOLD TEXTILES

Over a period of 5000 years from the discovery of silk weaving by the Chinese, the charm and variety of their colored embroideries remained one of their greatest artistic achievements. Since 1815, when trade was established with the West, these designs have exerted an influence culminated in the beautiful adaptations of the 19th Century. Then, as now, color sold textiles.

Franklin Process

LARGEST PACKAGE DYERS IN THE WORLD

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA

New York Representatives, 40 Worth St.

INDIVIDUAL SLUB CATCHER SETTINGS FOR FOSTER MODEL 57 DOUBLERS

The combination tension and slub catching device now used on Foster Model 57 Doublers permits individual settings for the slub catcher blades. Each slub catcher gate may be individually opened or closed to any desired setting, independent of adjacent slub catchers. The screws controlling this setting are easily reached and adjusted. In the above back view photo these screws are shown clearly, as well as the slub catcher gates at exaggerated settings which emphasize the ease and amount of opening and closing that is possible.

This exclusive Foster feature permits doubling of coarse and fine yarns together with exact control of inspection at each bobbin. It provides accurate tension and the finest slub catching for Foster one process doubling.

The Foster Model 57 can be equipped for one process doubling (with slub catchers), drawing direct from bobbins, or for two process doubling, drawing from cones which have been wound and inspected on the Foster Model 102. Which method is better depends on the requirements of each mill.

The Model 57 can be built to wind either 6″ or 7″ traverse tubes, and exceptionally high speeds are possible without loss of quality.

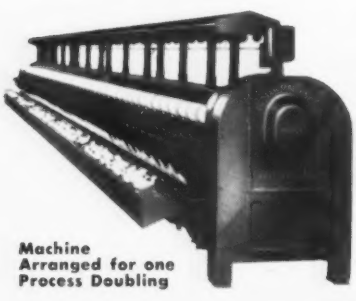
Here are some more features which contribute to this superior doubling:

NO SHARP BENDS IN THREAD LINE. Minimum yarn strain.

NO JUMPING OFF DOUBLING ROLL. Guard on thread roll.

QUICK-ACTING STOP MOTION. Enough yarn left for single end piecing.

EFFICIENT BRAKE. Contacts whole tube from underneath.

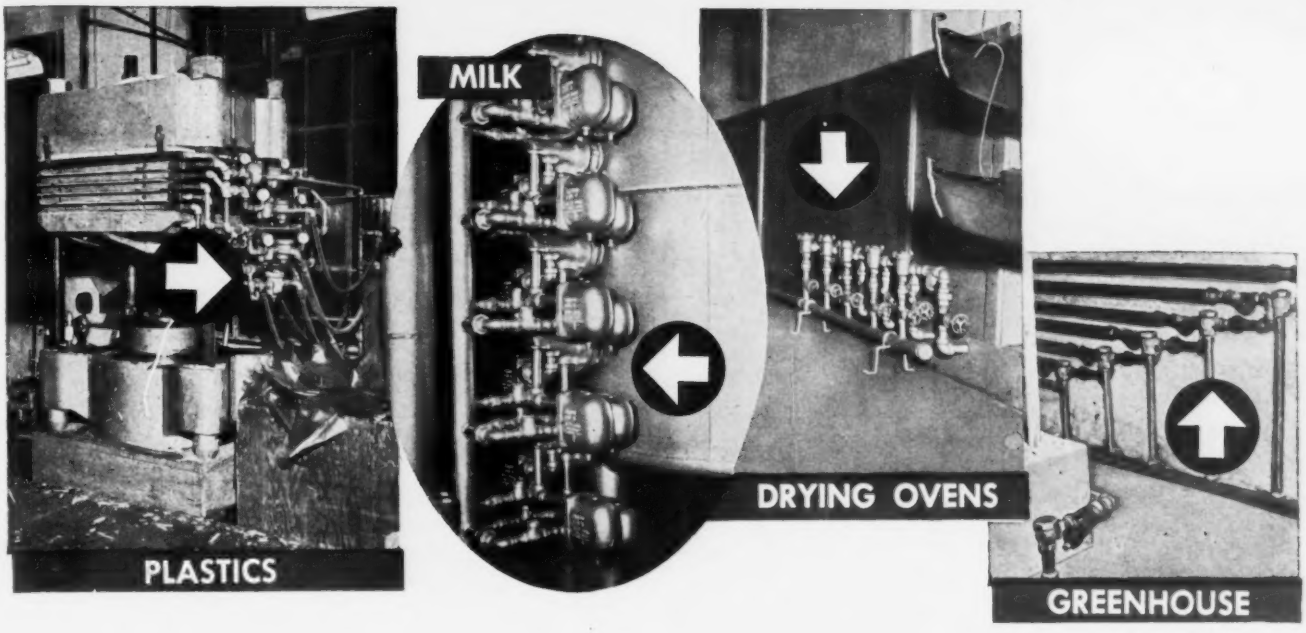


Machine Arranged for one Process Doubling

CIRCULAR A-90 ON REQUEST

FOSTER MACHINE CO., Westfield, Mass., U. S. A.

SOUTHERN OFFICE — JOHNSTON BUILDING, CHARLOTTE, N. C.
CANADIAN REPRESENTATIVE — ROSS WHITEHEAD & COMPANY, LIMITED, UNIVERSITY TOWER BUILDING
660 STE. CATHERINE STREET WEST, MONTREAL, QUEBEC
EUROPEAN REPRESENTATIVE — MUSCHAMP & TAYLOR, LIMITED, MANCHESTER, ENGLAND



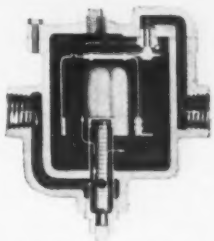
ALL-OUT HEAT USERS -*All Sarco*

When you buy steam traps, it pays to use just as many as necessary to assure efficient drainage and venting of every individual unit.

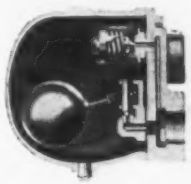
That's why you see so many batteries of Sarco Steam Traps. Each of the four types illustrated has special advantages of its own. All have the "know how" of Sarco's experience and the precision that results from being made in a plant devoted exclusively to steam traps and temperature controls.

FOR THE SMALL PLANT TOO

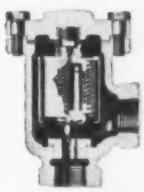
Small plants can profit by this advanced knowledge merely by asking for a Sarco recommendation. Your heating engineer or the nearest Sarco Representative can get this for you. And don't overlook the various forms of Sarco hot water, process and cooling controls.



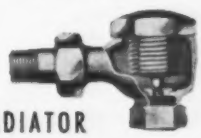
BUCKET TRAP



FLOAT-THERMOSTATIC



THERMOSTATIC



RADIATOR TRAP

240

SARCO

SAVES STEAM

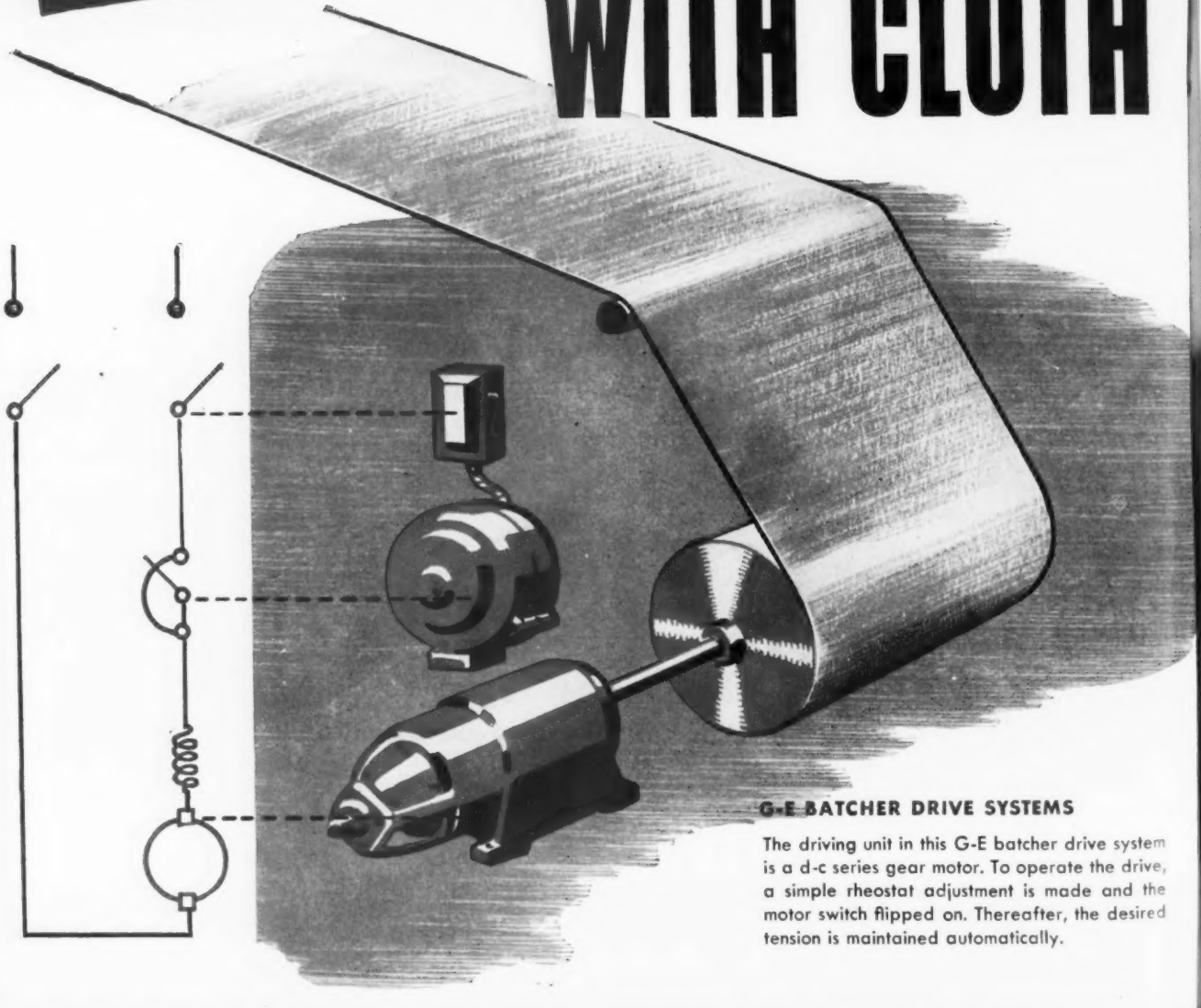
SARCO COMPANY, INC.

Represented in Principal Cities

Empire State Building, New York 1, N. Y.

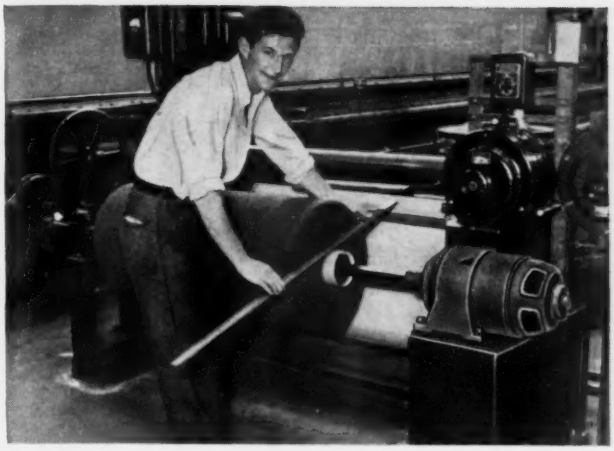
SARCO CANADA, LTD., TORONTO 5, ONT.

Smooth Batching WITH CLOTH

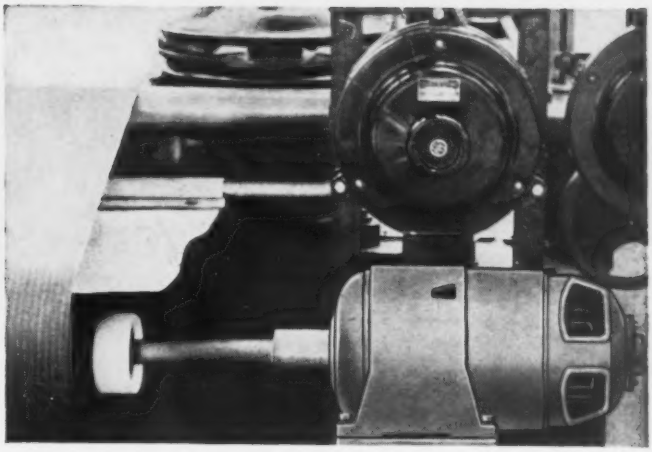


G-E BATCHER DRIVE SYSTEMS

The driving unit in this G-E batcher drive system is a d-c series gear motor. To operate the drive, a simple rheostat adjustment is made and the motor switch flipped on. Thereafter, the desired tension is maintained automatically.



This photograph dramatically illustrates how a G-E series motor batcher drive winds cloth into smooth, uniform rolls with even ends.



Simplicity is the outstanding advantage of a G-E series motor batcher drive. It consists of a d-c gear motor, rheostat, and motor control.

TENSION HELD CLOSELY!

A G-E series batcher drive needs only one simple adjustment to produce uniform cloth pull throughout a winding operation. Rolls are smooth and even, dyeing is better, and finishing costs are lower.

By holding cloth tension within narrow limits as it leaves a finishing machine, a G-E batcher drive prevents stretching of the warp—assures the operator of a uniform thread count over the roll length. Inner layers of cloth are not crushed and wrinkles and hard spots are eliminated. Thus, dyeing and other finishing operations are improved with less chance of shading and incomplete absorption.

SPOILAGE IS REDUCED!

Cloth rolls wound by a G-E batcher drive have smooth, even ends. Scuffing of the cloth during handling is avoided. The steady pull of the drive during acceleration and deceleration eliminates the "grabbing" motions of friction devices that often damage the cloth.

Little maintenance is required for a G-E batcher drive. There are no friction parts to wear out. Once a tension setting is made at the start of a wind, the drive automatically maintains this value without the aid of any mechanical adjusting device.

A DRIVE FOR ANY BATCHING CONDITION!

General Electric is prepared to furnish batcher drives to meet practically any set of operating conditions. The most widely used drive, a G-E series batcher motor, can operate over a diameter buildup range of 8 to 1 and a tension range of 4 to 1 at constant speed in yards per minute. Alternate drives are also available where greater accuracy of tension control, wide speed range, or "tensionless" winding are required. For a complete description of G-E batcher drives, write for Bulletin GEA-5012A. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

DRIVE SYSTEMS FOR TEXTILE MILLS

GENERAL ELECTRIC

661-29

KILL STATIC with Complete Safety

STATIC in textile mill routine is a costly nuisance. To maintain trouble-free and smooth speed production, static must be eliminated continuously and safely. Since 1904, thousands of mills the world over have been eliminating static with CHAPMAN equipment — efficiently, with complete safety, and at low cost

Obviously, there can be no "package" solution for static problems. CHAPMAN Static Eliminators are of several types, each of which is specifically designed to do its one job, and to do that job superlatively well — to KILL STATIC — whether at a single point or across any width of web.

THE CHAPMAN STATIC ELIMINATOR

INSTANTANEOUS ACTION — TROUBLE-FREE

Textile mills everywhere report to us that CHAPMAN Static Eliminators are speeding their production by eliminating static at the point where static causes trouble; on the condensers of wool carding sets; over doffer combs; on Peralta machines, nappers, dryers; in the drawing process of making worsted type yarns on the American or modified cotton system; on cotton type drawing frames handling cotton or wool and the various synthetics, either alone or in blended combinations; in high speed warping and slashing, and many other operations.

Proven Safety & Efficiency

CHAPMAN Static Eliminators are absolutely safe. Over 40 years of *actual, continual use under varying conditions* have proven this. No shielding or any precaution is needed to protect operators. Neither operators, State or other governments object to its use. CHAPMAN Static Eliminators are silent and instantaneous in action; reduce the need for excessive humidity; require a minimum of maintenance. Operating cost is so low as to be negligible.

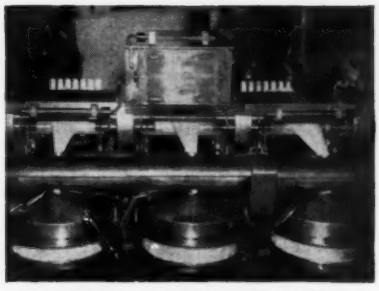
CHAPMAN STATIC ELIMINATORS ARE TESTED AND APPROVED BY THE UNDERWRITERS' LABORATORIES.

Chapman Engineering Service is available to you without obligation. Write us, and ask for your free copy of the CHAPMAN Handbook, Bulletin No. 66.

CHAPMAN ELECTRIC NEUTRALIZER COMPANY

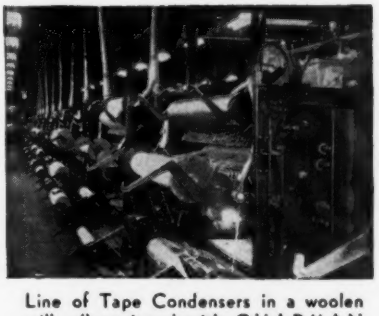
ESTABLISHED 1904

24-60 FORE ST., PORTLAND 6, MAINE

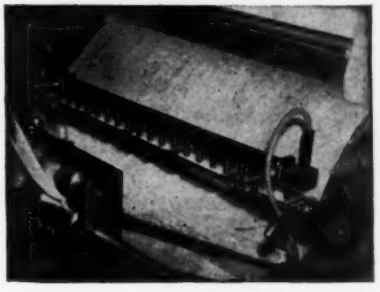


Three slivers in a line of drawing — equipped with CHAPMAN Neutralizers. One clearer cover is raised.

Two lines of drawing, running blends containing wool, acetate rayon, etc. Equipped with CHAPMAN Neutralizers, insuring full production.



Line of Tape Condensers in a woolen mill, all equipped with CHAPMAN Neutralizers of the individual type.



A close-up view of a cotton card fitted with a CHAPMAN Neutralizer.

Here's ONE off-color story

THAT'S WORTH REPEATING!

It's the one about SHERWIN-WILLIAMS wonderful GUIDE-COAT MILL VILLAGE EXTERIOR paint, that tells at a glance just where the second coat has already been applied! Saves you TIME! Saves you MONEY!

Just think! No squinting and bending to see where you've already painted! A glance will tell you just how far you've gone with your second coat of Sherwin-Williams Mill Village paint . . . because the first *Guide-Coat*, furnished in light cream, gray and white, is just enough *off-color* to make your job easier, time-saving and money-saving.

By using this new Sherwin-Williams Guide-Coat Mill Village Exterior paint, you save in the *quantity* of paint, too. There's no duplication . . . no painting over the same spot to make sure you have painted it with the second coat—*you can see* just where the second coat has been applied! You are assured of proper film thickness and maximum protection. Write us today! The Sherwin-Williams Co., Cleveland 1, Ohio (Export Division, Newark, New Jersey.)

Another Product of Sherwin-Williams Industrial Research

SHERWIN-WILLIAMS INDUSTRIAL FINISHES

These Major Merchandisers of TERRY TOWELING all weave their Fine Fabrics on C&K LOOMS

Beachwear and towels of luxuriant terry have to live a strenuous life. . . yet come up fresh, soft and smiling from limitless launderings. And national advertising demonstrates the confidence of these 7 mills that their brands of terry will do exactly that.

Such confidence can be based only on finest yarns, most careful preparation, and most efficient weaving machinery . . . C&K Looms. So wherever you see one of the famous trademarks above, remember that it's backed by C&K's *invisible* trademark — a basic assurance of quality in woven fabrics. Yes, mills that weave any type of fabrics on C&K Looms have long been known for dependability in quality, delivery, and price. And that's exactly why so many different types of cloth are woven on Crompton & Knowles Looms.

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

C&K — A Loom for Every Woven Fabric

This "Invisible Trademark"
Stands Back of the Famous Trademarks Shown above

If you have a Tramp Iron Problem Send for this

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GET YOUR FREE COPY OF THIS CATALOG BY WRITING TO ERIEZ MFG., ERIE, PA.

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- ENGINEERING DATA
- SPECIFICATIONS
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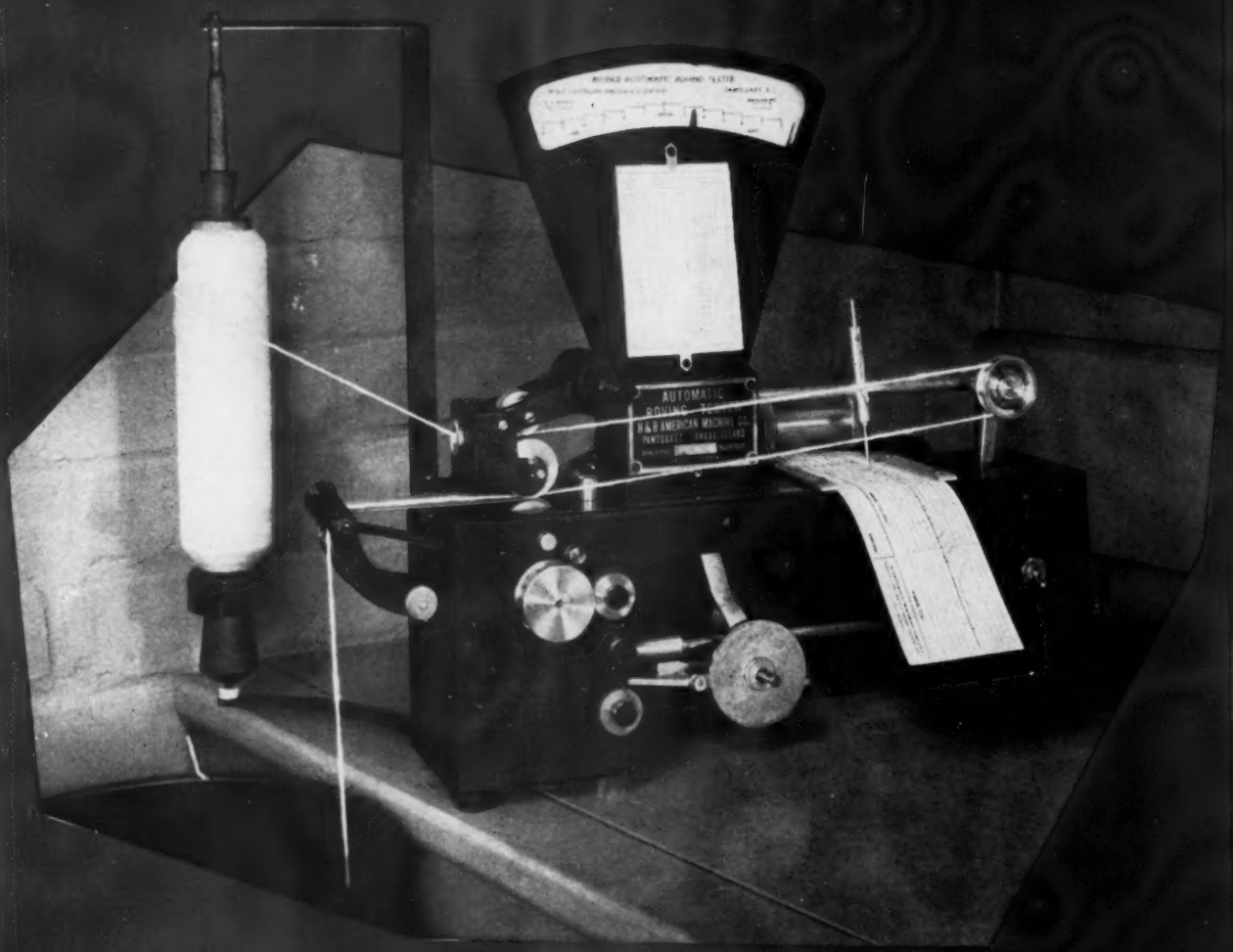
ERIEZ MANUFACTURING COMPANY

501 East 12th Street, Erie, Penna.

H&B AUTOMATIC



We, at H & B, have long been proud of our efforts toward perfection in even the smallest details of textile machinery manufacture. We have stressed the importance of the "little things" done in the right way from the beginning. We believe this emphasis has resulted in superior machinery to do your work. Now we want to mention a *little* machine which you can use to make a *big* difference in your production.

H&B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

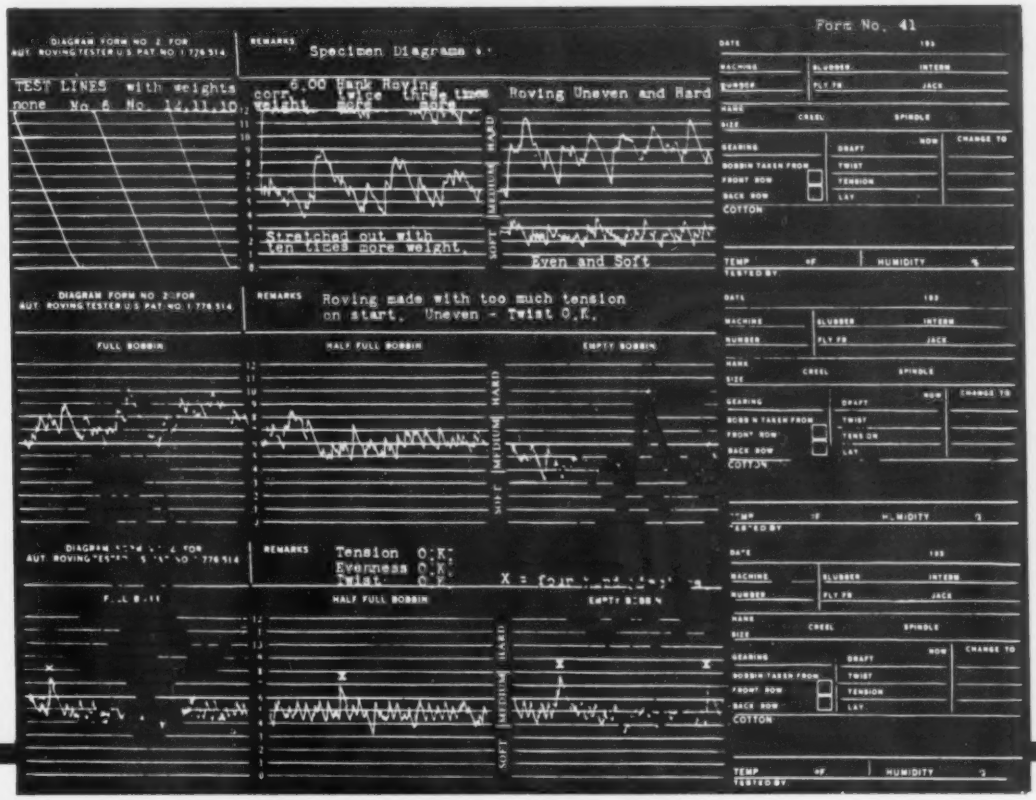
ROVING TESTER...

IT'S THE LITTLE THINGS *that make a Big Difference*

This machine is used to obtain an impartial record of the physical condition of your roving. From this record roving is judged for tension, evenness and twist. A short explanation of how the tester functions helps make its value clear. Weights on the balance scale stretch the roving being tested as much as the draft between the intake and delivery rollers. When a roving is hard the diagram, as shown here, is marked between lines 8 and 12, when soft between lines 0 and 4. Perfect roving keeps the pen at the heavy 6 line of the diagram.

With a little experience the tester operator recognizes faulty roving and what the faults are. Then, when diagrams are made from every Slubber, Intermediate, Fly and Jack Frame in the mill, you are ready to adjust your frames to produce the kind of roving you want.

The H & B Automatic Roving Tester is the only mechanical device to impartially test roving. It eliminates the possibility of error through bad judgment. Here is a little thing designed to make a big difference in your production.



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Textile Machinery

DIVISION **PAWTUCKET, RHODE ISLAND, U. S. A.**

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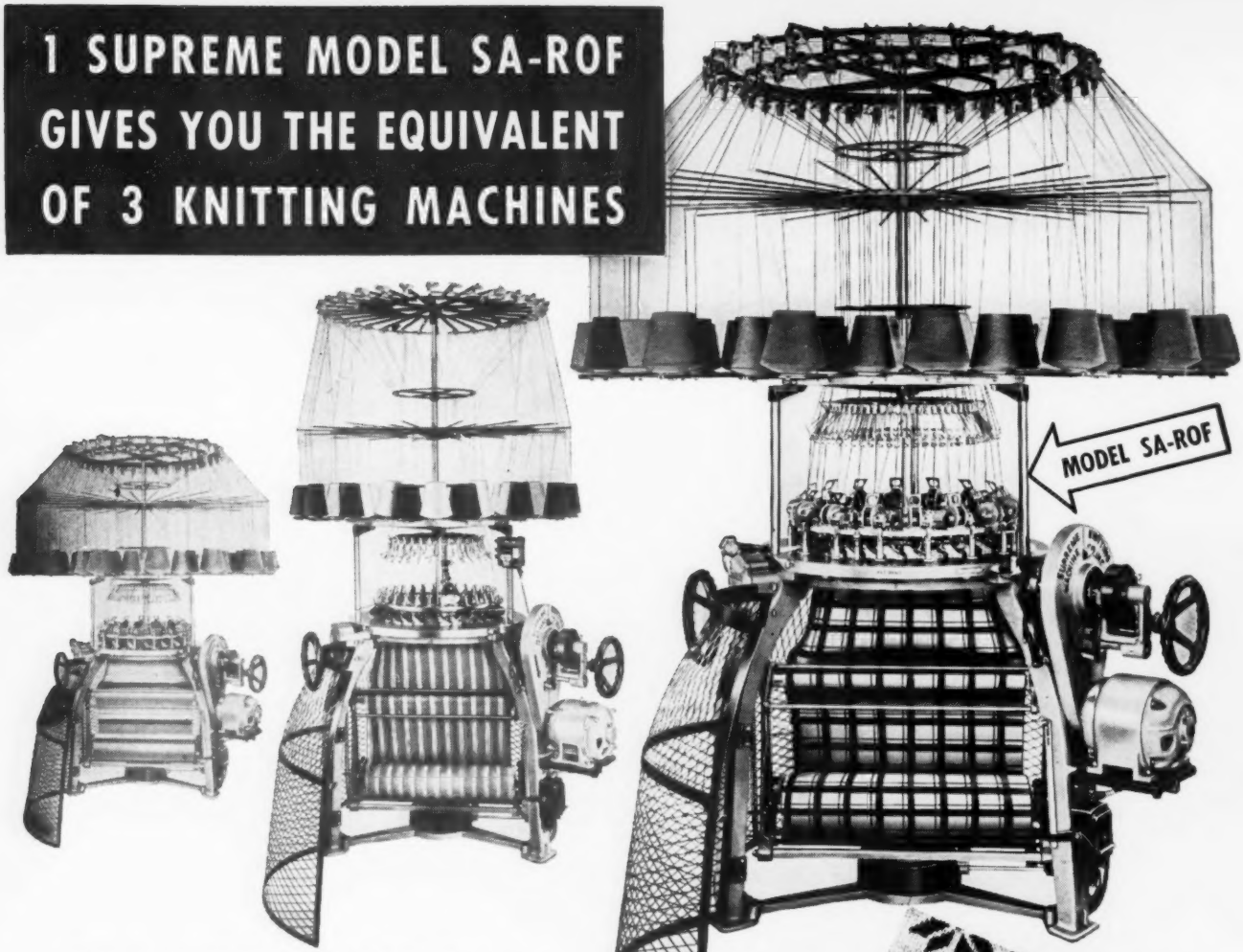
1 SUPREME MODEL SA-ROF GIVES YOU THE EQUIVALENT OF 3 KNITTING MACHINES



Supreme's New Model SA-ROF gives you the combined advantages and the varied knitting ability of three knitting machines:

1. **A variable jersey striper**
2. **A "floatless" pattern wheel machine**
3. **A plaid and check knitter**

Depending upon your production plan or market demand, with the Model SA-ROF you can knit variable striped jersey with the stripes as deep as you want varied the way you want or – widely spaced patterns and designs with the floats neatly tied to the back of the cloth or–colorful plaids and checks.

The Model SA-ROF has these exclusive design features:

- Unique, stationary drum striping feeds and stationary yarn stand.
- Revolving cylinder and take-up.
- 24" diameter, 32 feeds. A minimum of 16 feeds knitting four colors.
- Choice of stripes, patterns or plaids.
- Quiet, concealed camming.

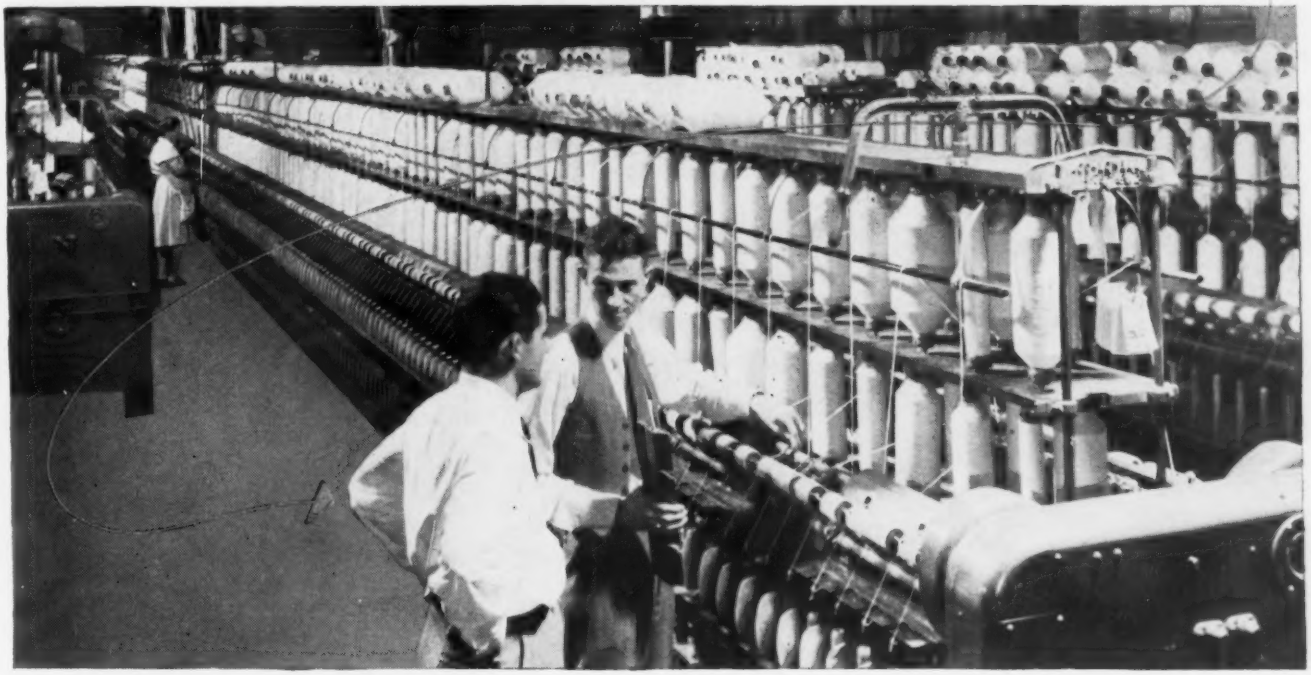
If you want to know more about the unusual fabrics and wider production range possible with SA-ROF, write for your copy of our new booklet, "Variable Stripes and Plaids Pay."

Mills Throughout the World Knit With Supremes

SUPREME
KNITTING MACHINE CO., INC.
105 JOHNSON AVE., BROOKLYN 6, NEW YORK, N. Y.

SK-113

let a *Gulf Lubrication Engineer* work with you, for you—



- **to reduce wear and downtime,**
- **cut maintenance and power costs,**
- **eliminate lubricant gumming**
- **reduce ends down**

A Gulf Lubrication Engineer (left) discusses spindle and draft roll lubrication with the Superintendent of spinning in a prominent Southern mill.

SCORES OF LEADING MILLS find the wide experience and broad practical knowledge of Gulf Lubrication Engineers invaluable—a source of real down-to-earth solutions for their maintenance and lubrication problems.

One of these trained specialists can help you eliminate guesswork in lubrication—assist you to get the full advantage of lubricants as engineering materials. For he is thoroughly familiar with all factors which affect lubrication efficiency—and he makes available a complete line of quality oils and greases designed for service under widely varying operating conditions, no matter how severe.

When he makes a recommendation of the right Gulf lubricant and the most suitable method of application, you can be sure of satisfactory results.

If you are not already doing so, get the benefits of this helpful engineering service. Call in a Gulf Lubrication Engineer today and ask him to give you specific cases of mills, similar to yours, who have reduced power and maintenance costs through improved lubrication. Write, wire, or phone your nearest Gulf office.

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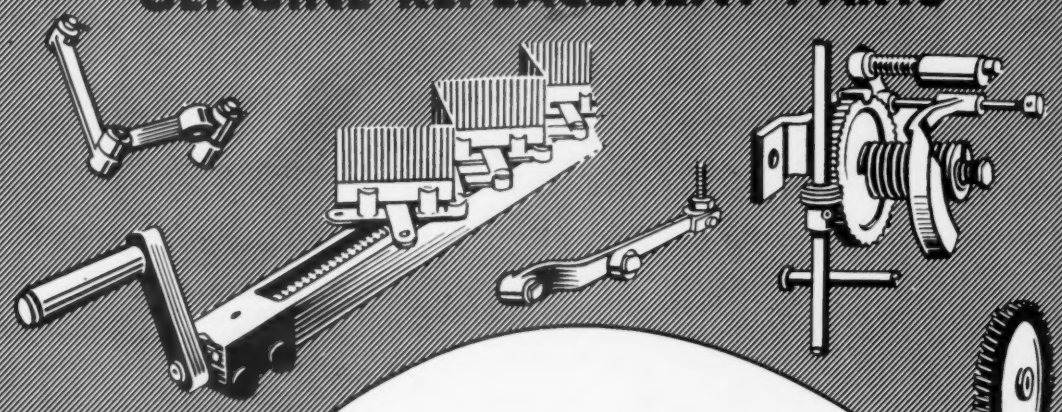

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We are the official source of supply for Saco-Lowell Warper replacement parts. We also have complete tooling, plus trained personnel to supply all replacement parts for

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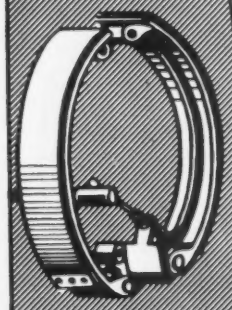
Supplying your needs for replacement parts of the above warpers — as well as our own make — is an important and very active part of our business. We can assure you prompt attention and intelligent handling of your inquiries.



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Cotton and Rayon Beam Warpers

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Narrow Fabric Warpers

Intermediate Dresser Stand for Woolen and Worsted Warp Yarns

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All types of Expansion, Warper, Beamer and Slasher Combs

Replacement parts for Saco-Lowell and Entwistle Warpers

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FORMALDEHYDE

Formaldehyde Solution U.S.P. A clear, colorless liquid of the highest purity. For water repellents, glazes, resins, anti-mildew agents. For crease-proofing and crush-proofing. Shipped in tank cars, drums, carboys, bottles; in tank trucks (N.Y. metropolitan area only).

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For dyeing of acid colors; wool treatment for moth-proofing; emulsions for impregnating fabrics; as a sour to prevent yellowing; acid wash after sulfur coloring and dyeing. Shipped in 125 lb. carboys.

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U.S.P. and Technical Grades. For the preparation of water repellents; production of fast prints on textiles. Shipped in 200 lb. bbls.; 100, 50 and 25 lb. fiber drums.

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Available in a wide variety of compounds for use as solvents and intermediates in dye manufacture.

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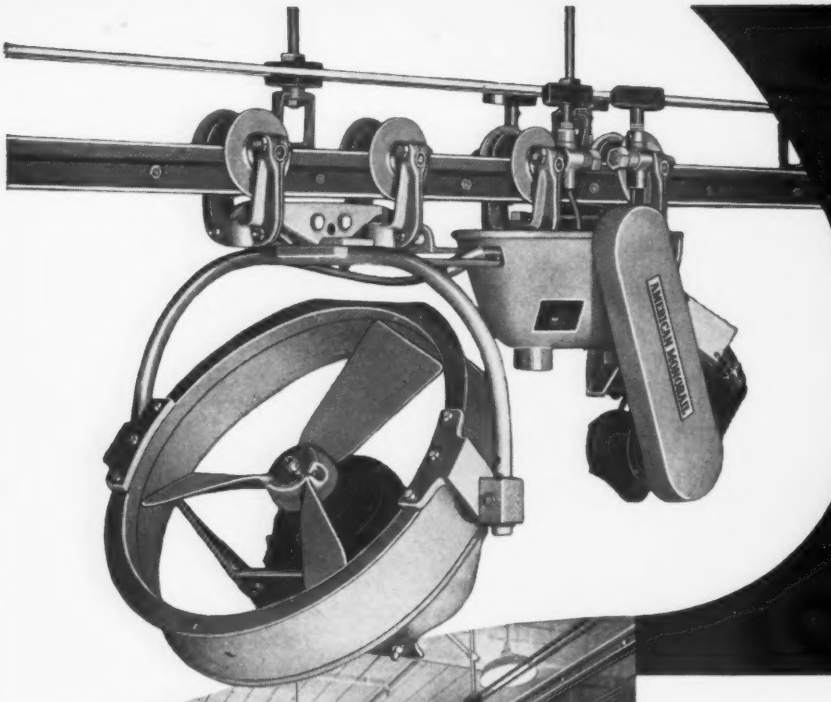


Keep Ceilings Clean with AUTOMATIC CEILING CLEANERS

No Labor Cost
No Production Loss
No Ladder Accidents
No Fire Hazard

At a recent meeting of textile executives, twenty-four mills reported most common practice of blowing down ceilings once every twenty-four hours with frames running, or once a week when idle. This means lost production when the machines are shut down under the cleaners or extra time for cleaning labor.

ONE MILL REPORTED EXCELLENT RESULTS WITH AUTOMATIC CLEANERS!

Our engineers can show you how a simple high-velocity traveling fan unit can eliminate your ceiling cleaning problem entirely. Systems have been operating well over a year without blow down.

Write for copy of Bulletin CB-3 describing all the latest developments in Automatic Cleaners for Textile Mills.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

Sleeve Bearings are free from complication. Requiring no shaft shoulders, no threaded shaft, no locknuts, they present the ultimate in straightforward trouble-free design. The Bunting Cast Bronze Sleeve Bearing is the popular leader in its field. Consult the Bunting Engineers. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in principal cities.

BRONZE BEARINGS

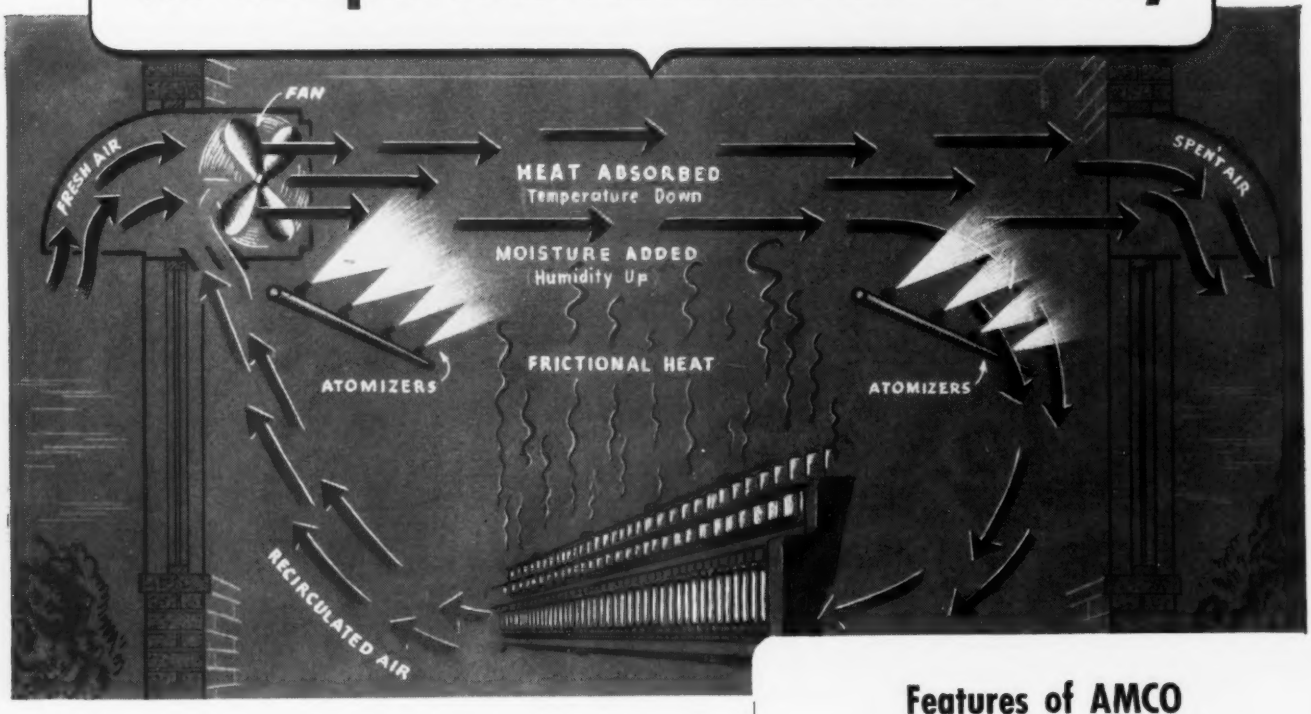
BUSHINGS

PRECISION BRONZE BARS

Bunting

58

Nothing cools so simply as evaporation...the AMCO way



● With completely automatic AMCO Evaporative Cooling system a controlled amount of fresh air is drawn into the mill from outside and combined with some re-circulated air. Spray from atomizers introduces moisture and relative humidity is raised to the desired point. Frictional heat is absorbed by evaporation of moisture thus reducing excessive room temperature. Spent air is exhausted automatically through controlled vents.

Simple, flexible, economical—AMCO treats each room as a separate unit. No expensive changes are necessary . . . no air ducts to install . . . no jump in maintenance costs. What AMCO humidification and cooling has done for many well-known, progressive textile mills, it can do for you. Let an AMCO engineer show you the way to better product quality and increased output.

AMCO

HUMIDIFICATION and COOLING

AMERICAN MOISTENING CO. AFFILIATED WITH GRINNELL COMPANY, INC.

PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

Features of AMCO Humidification and Cooling

Reduces excessive temperature and holds relative humidity at point best suited to fibre and process.

Permits faster machine speeds in high friction (heat) areas.

Assures evener yarn counts and increases breaking strength.

Gradually increases regain for good roving and consequent better spinning.

Drafting of fibres smoother and more compact.

Waste and fly greatly reduced.

Increases worker comfort.

Easier to install—minimum disruption.

Amco Evaporative Cooling utilizes your present humidification system.

High flexibility to meet changing room conditions.

No cumbersome ducts to require cleaning.

Minimum maintenance.

SARAN

SARAN

BY NATIONAL

Beautiful! Care-free! Sales go to seat covers woven of SARAN!

Of course, motorists prefer the seat cover that provides the ultimate in good looks and long wear! They want the same fine qualities that distinguish saran in its widely diversified textile applications. For versatile saran monofilaments, as fine as .005", weave new measures of brilliant beauty, durability and usefulness into a host of today's functional fabrics . . . and constantly inspire new fabric trends, new sales opportunities. Write to us for details.

Suit and accessories from Saks Fifth Avenue, Detroit

REG. U.S. PAT. OFF.

Saran by National

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New York: Empire State Building • Los Angeles: Bankers Building

SARAN

SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran, and supplied to mills, weavers and other fabricators.*

CUTS DAMAGE/LOSSES!

Textile Industries report big savings with New Glosstex Handling Equipment!

Smooth as silk

Glosstex*

BASKETS · HAMPERS · TRUCKS

* Trademark Registered

5 BIG MONEY SAVING TIME SAVING FEATURES OF THIS NEW FINISH!

Satin-Smooth!
Snag-less!
Oil and Grease Proof!!
Washable!
Cost less than Fibre or Wood!

Exclusive impregnation process renders Glosstex smooth as silk. Ideal for handling fabrics. Won't absorb dyes. Does not deteriorate in heat up to 300°F. Does not shrink. Highly resistant to abrasion.

PREVENT PULL THREADS

Widely used in hosiery factory, Glosstex—snag-less, clean and long wearing—is excellent cost-cutter on delicate hosiery handling operations.

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Careful preparation, experimentation and field tests conducted by Daniels' own laboratories were further amplified by independent testing companies. (Copy of tests sent on request.)

C. R. DANIELS, INC.

Manufacturers Of Everything of Canvas

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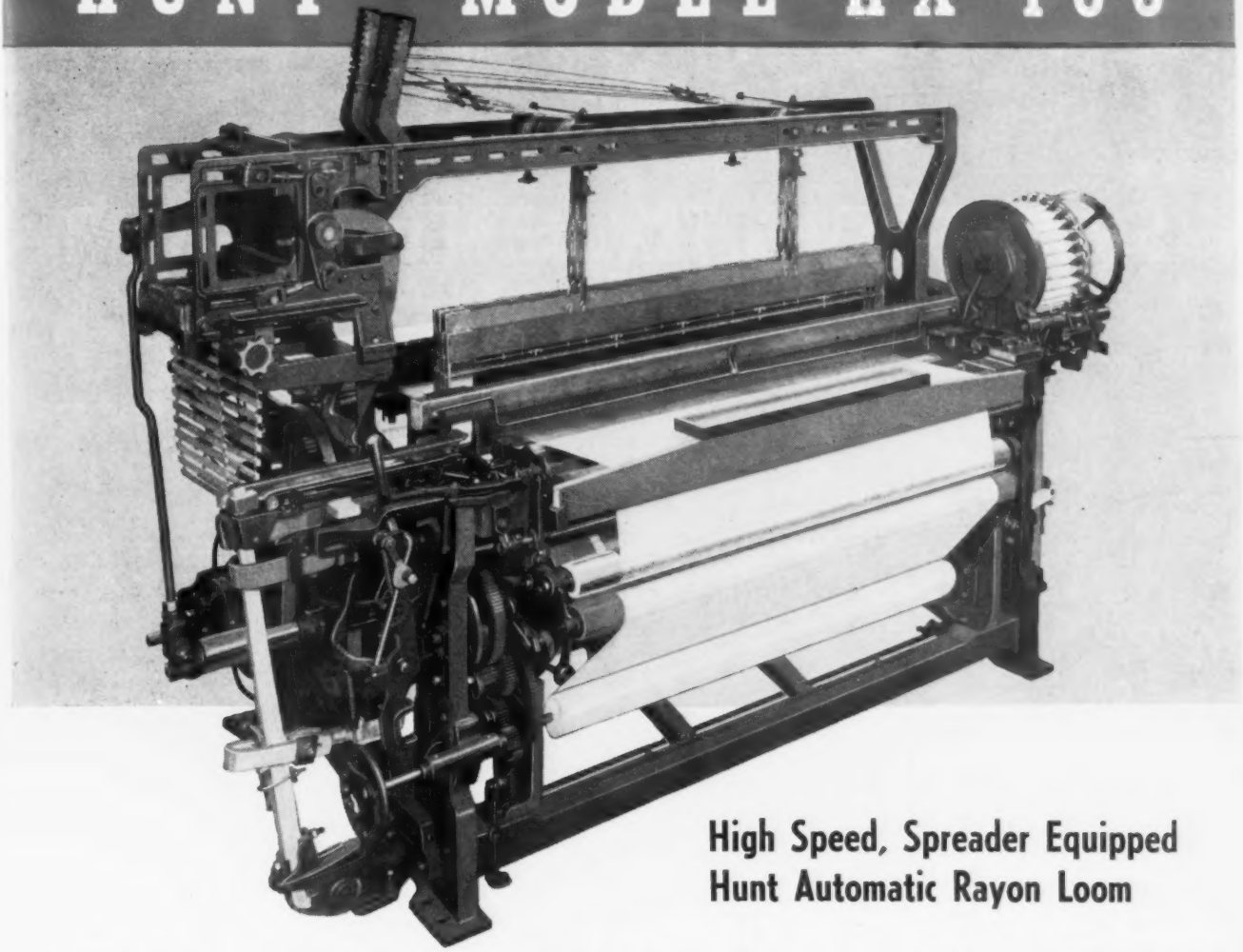
DANIELS, MD.

Offices And Factories In Principal Cities

HUNT MODEL HX-100



High Speed, Spreader Equipped Hunt Automatic Rayon Loom

Engineered for Better Rayon Weaving!

Massive New Hunt Loomside Gives Greater Operating Efficiency

After many months of studying the problems involved, Hunt engineers designed this new, vastly heavier loomside, which is built into Hunt Rayon and Cotton looms. Integrated with an improved Hunt Spreader, these new loomsides give more weight and stability—assure smoother, more efficient operation.

Introduced recently at the Southern Textile Exposition, the Hunt Model HX-100 Rayon Loom was a center of attraction. It brought enthusiastic comment from mill owners and technical men alike.

Built on a specially designed heavy duty frame and equipped with an improved Hunt Spreader, the Hunt Rayon Loom features Low Roll Take-Up, Latest Bartlett-Type Let-off, Center Filling Fork, and Electric Stop Motion. It is made for cloth widths up to 50-inches and is individually motor driven.

The Hunt Model HX-100 was designed to supply the industry's demand for a modern, high-speed rayon filament loom. It is sturdier and steadier, and provides the increased production and greater efficiency needed for today's operating conditions.

Write, wire, or phone today for details of cost, deliveries, and installation.

HUNT MACHINE WORKS, Inc.

200 ACADEMY STREET TELEPHONE 2-5681

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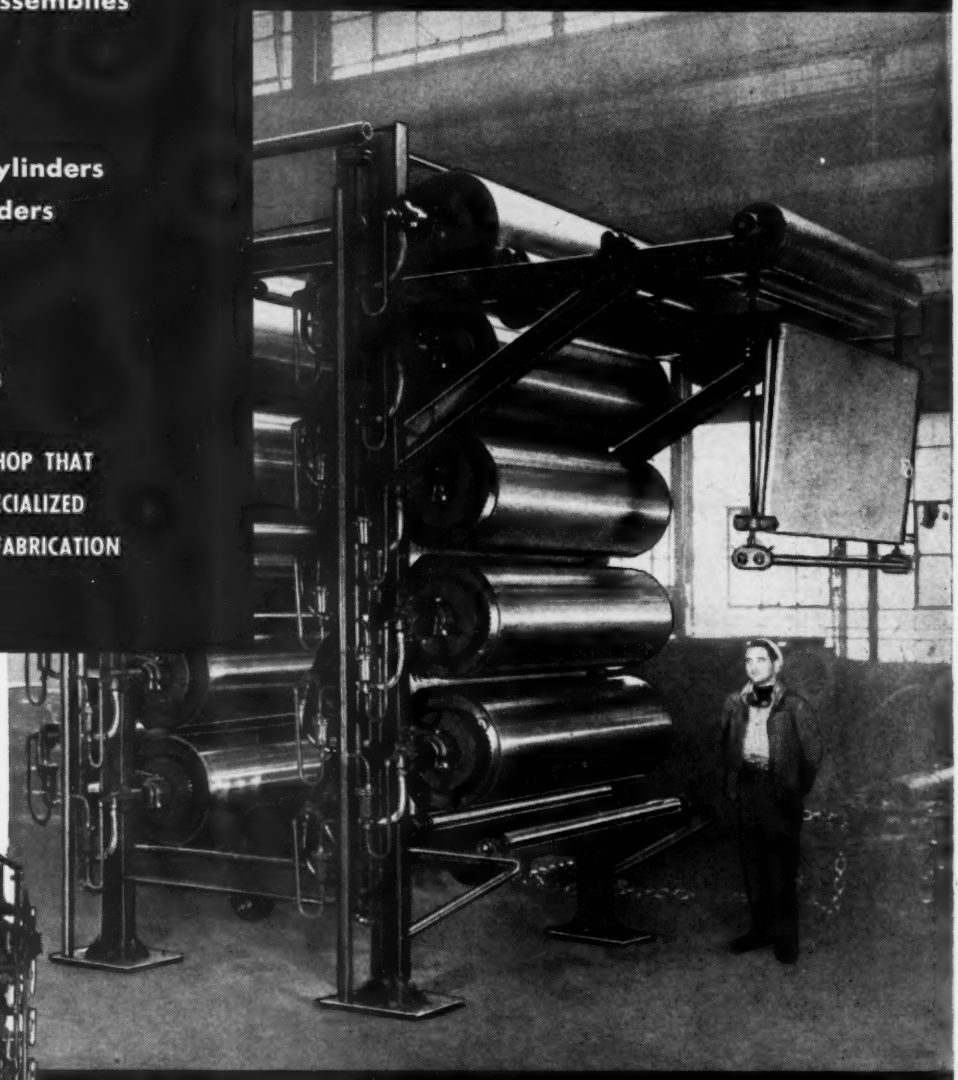
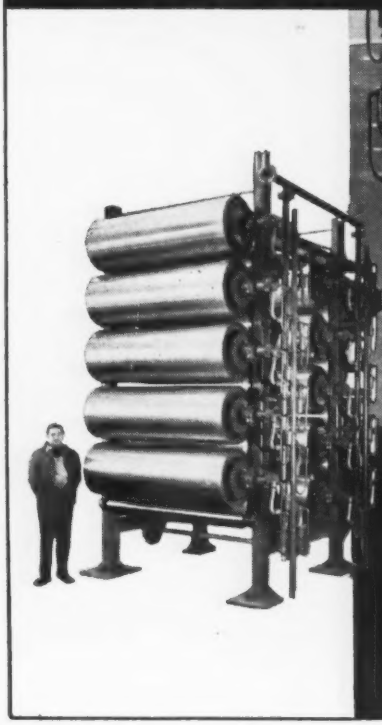
ALL BUILT IN A SHOP THAT HAS ALWAYS SPECIALIZED IN STAINLESS STEEL FABRICATION





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of having a CONTAINER PLANT right in your own "BACK-YARD"

GAIR Container Service is GAIRanteed to embrace Four Outstanding Features . . .

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B Container Handbook.

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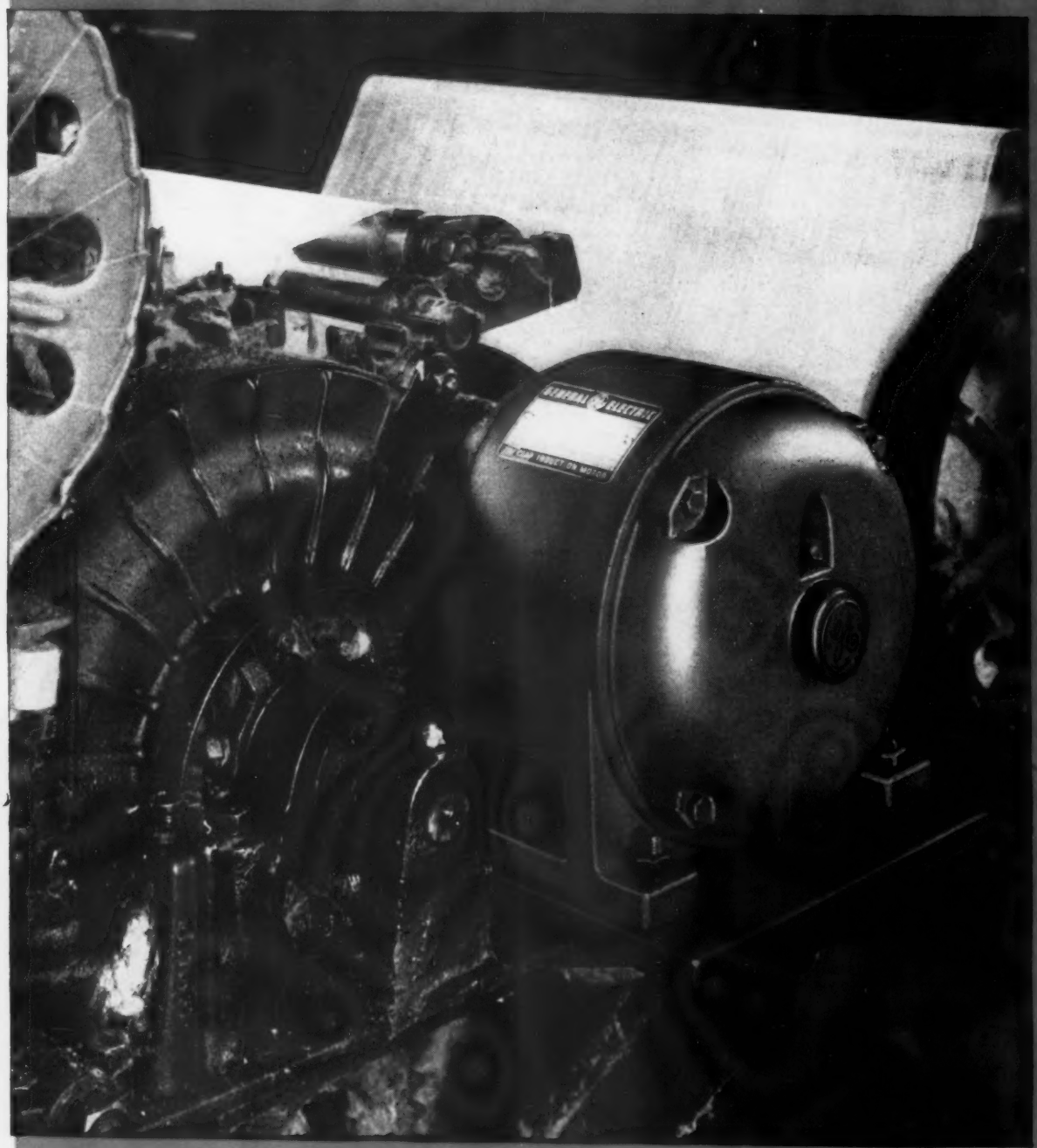


GENERAL ELECTRIC

loom likes it!

...that's why the new G-E loom motor increases output—costs less to maintain

The new G-E loom motor is backed by one of the most comprehensive development programs ever undertaken for a motor of this type. Loom design factors like weight of lay, travel of lay, picks per minute, weight of shuttle, etc., were carefully studied so that the electrical and mechanical characteristics of the new motor would meet the exacting demands of loom service. The result is a motor "built the way a loom likes it". In your mill it will produce these two important advantages:

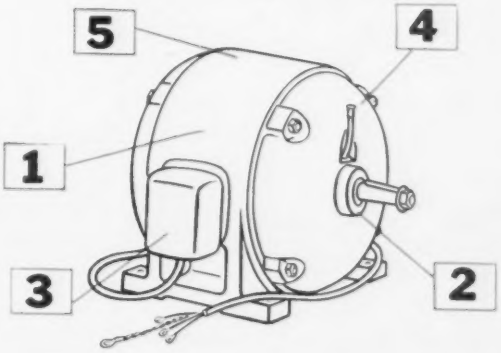
INCREASE YOUR PRODUCTION!

This new motor maintains a high sustained speed throughout the pick cycle. This contributes to maximum production from looms. Moreover, the rugged construction means little time out for repairs.

CUT YOUR MAINTENANCE COSTS!

The totally-enclosed cast-iron construction of this motor—plus new-type steel-backed bronze bearings enables it to withstand the rigors of loom service. Accessible oilers on large capacity bearing reservoirs simplify lubrication.

The new G-E loom motor (40° C rise) is now available in ¾, 1, 1½, and 2 horsepower ratings. Mail the coupon today for Bulletin GEA-5011 which gives detailed analysis of the motor, frame dimensions, etc. *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*



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1. A rugged, totally enclosed, cast-iron frame which is shorter, takes up less aisle space.
2. Larger diameter, wool packed, steel-backed bronze bearing linings for greater capacity and longer life.
3. Roomy, two-piece conduit box will accommodate either S. O. cord, or conduit system (when suitable fittings are used). Motor furnished with 4 feet of 4-conduit Flamenol* cable.
4. A pinion-end bearing that's easier to lubricate.
5. All ratings with a single diameter frame to make it easy to change ratings as production demands vary.

TOTALLY ENCLOSED

LOOM MOTORS

Lint-free and cast-iron!

*Reg. U.S. Pat. Off.

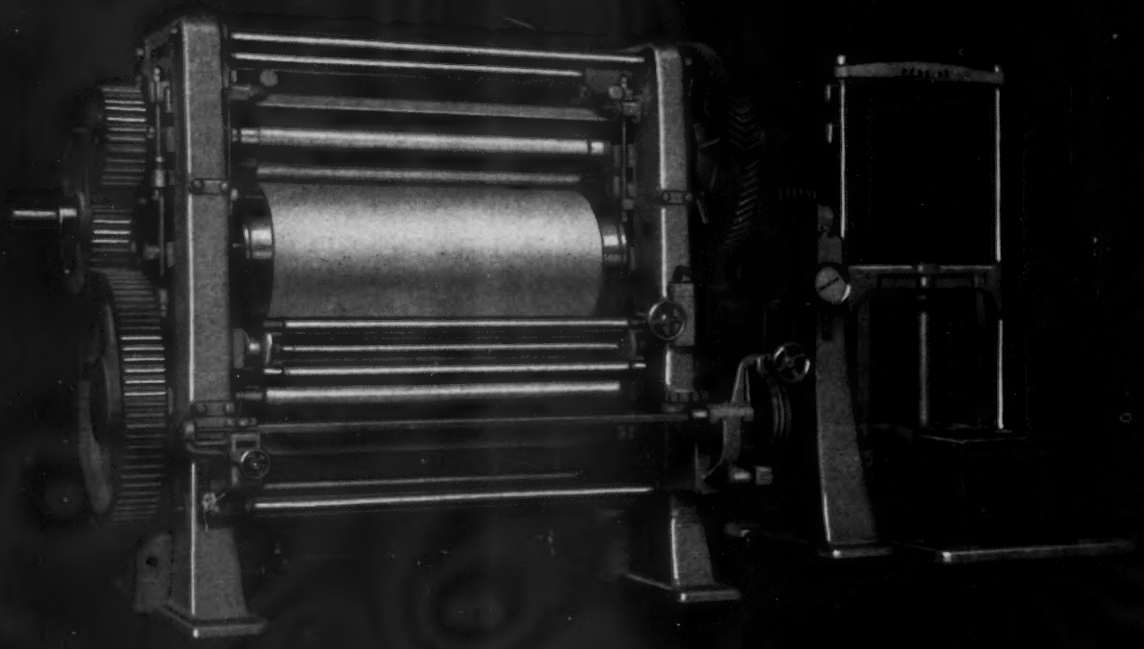
General Electric Company, Section C661-32
Apparatus Department, Schenectady 5, N. Y.

Please send without obligation a copy of your Bulletin C EA-5011 which describes the new G-E totally-enclosed 40° C rise loom motor.

Name _____

Address _____

City _____ State _____



Perkins 54″ three-roll hydraulic friction calender . . . thirty-five tons pressure . . . Sykes herringbone drive gears . . . cut spur friction gears . . . bronze bearings. Top, chilled iron roll, 12″ diameter . . . intermediate cotton roll, 22″ diameter . . . bottom, iron roll, 18″ diameter.

Perkins Hydraulic Power Unit . . . a high power unit which combines efficiency with quiet operation. Note the enclosed type housing for maximum safety and appearance.

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LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

A useful guide to better results with Stainless

Here in convenient form we have condensed the essential facts about the various grades of U·S·S Stainless Steel that will assist you in determining broadly which is most suitable for your needs. Keep in mind, however, that this chart merely indicates general characteristics and basic applications.

To get *optimum* results from these service-tested Stainless Steels, any fabricator, and especially any one contemplating the use of Stainless for a new product, should obtain expert advice in its selection and fabrication. This we are prepared to furnish.

Our Stainless engineers are specialists in the use of these materials. Ask for their cooperation. You'll find their suggestions practical and extremely helpful not only in determining the grade of U·S·S Stainless that will do the best job for you, but in showing how it can be handled most efficiently on your equipment.

15 types of U·S·S Stainless Steel to choose from

	grade	characteristics	when or why used
austenitic	U·S·S 18-8 Type 302	Excellent corrosion resistance.	General all-purpose grade for food, dairy, chemical, and architectural uses.
austenitic	U·S·S 18-8 S Type 304	Carbon is limited to 0.08% maximum.	For applications similar to U·S·S 18-8 Type 302, but offers superior corrosion resistance in weld-affected areas.
austenitic	U·S·S 18-8 Ti Type 321 U·S·S 18-8 Cb Type 347	Similar in general corrosion resistance to U·S·S 18-8 and U·S·S 18-8 S. Stabilizing additions immunize corrosion attack of heat-affected areas.	High temperature service, 800°F to 1600°F. For severe corrosion conditions in welded assemblies which cannot be subsequently annealed.
austenitic	U·S·S 18-8 Mo Type 316	Exceptional corrosion resistance, improved creep strength.	Severe corrosive conditions, particularly those involving pit-type corrosion.
austenitic	U·S·S 18-8 FM Type 303	Galling and seizing reduced, machining greatly improved.	Gears, valves, bolts, screws, or other machined products.
austenitic	U·S·S 25-12 Type 309	Exceptionally stress resistant at high temperature exposure.	In service where temperatures up to 1900°F are encountered.
austenitic	U·S·S 25-20 Type 310	Offers superior resistance to oxidation.	Applied where very high temperatures are involved.
ferritic	U·S·S 17 Type 430	Good corrosion resistance.	Automotive and interior architectural trim; some specific chemical applications.
ferritic	U·S·S 27 Type 446	Limited formability, generally not adapted to severe drawing. Excellent scaling resistance.	Principally used at high temperatures up to 2000°F for static parts not subjected to high stress.
ferritic	U·S·S 12 Type 410	Martensitic grade, strengthened by conventional heating and quenching.	Engaging mechanical parts, such as pump rods and valves.
ferritic	U·S·S 12 Turbine Type 403	Composition basically same as U·S·S 12.	Modified analysis suited for turbine blades and similar application.
ferritic	U·S·S 12 AL Type 405	Composition basically same as U·S·S 12.	Modified analysis for applications requiring field welding where air-hardening cannot be corrected by heat treatment.
ferritic	U·S·S 12 FM	Added elements give extra machinability over U·S·S 12.	Used for valve parts and other articles made on automatic machines.
ferritic	U·S·S 5 Type 501	Welding hardens; annealing restores ductility.	Used in petroleum industries for strength, and resistance to corrosion and oxidation at moderately high temperatures.
ferritic	U·S·S 5 S Type 502	Basically same as regular U·S·S 5.	Modified analysis reduces tendency to weld-harden.

forms available

SHEETS are supplied in plain or polished finishes which are standardized. They are designated as: No. 1—Hot Rolled, Annealed, and Pickled; No. 2D—Dull Cold Rolled; No. 2B—Bright Cold Rolled; No. 4—Standard Polish on either One or Both Sides; No. 6—Tampico Brushed; No. 7—High Luster Polished.

STRIP is supplied to ordered requirement in coils or straightened and cut lengths. It should be ordered to a decimal thickness, with width and finish to suit the particular application.

PLATES AND BARS are furnished hot rolled, annealed, and pickled; bars are also furnished cold finished, centerless ground, or polished. Special sections and plates are furnished with pickle finish and require coarse abrasives in preliminary grinding, where a polish is desired.

TUBULAR PRODUCTS are furnished in most popular grades of U·S·S Stainless Steel. A variety of finishes are obtained by grinding and polishing cold drawn, annealed, and pickled tubing.

ROUND WIRE is available in coils within a size range of .5" to .005" inclusive. Straightened and cut material is limited to .030" and coarser. Finishes available include pickled, metallic coated, oil, diamond, and soap drawn, ground, and polished. A variety of cold heading wire, spring wire, weaving wire, armature binding wire, and wire rope are also available in stainless steels.

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CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH
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UNITED STATES STEEL

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here's a man who can help you out

WHEN you are in the middle—between bad-running spinning or twisting and a management that is pressing for better production and quality—it's a good time to talk to a Victor Service Engineer.

He has been in on thousands of spinning and twisting problems, and seen them through to a successful solution. He can not only recommend the right traveler for the job, but can often make other suggestions for improving yarn quality and production that will change front office complaints to compliments.

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There were 35.4% less ends down with *Dayco* Roll Coverings. This, despite the fact the *Dayco* test frame was located next to a window. The test was run on frames making 24/1 65% cotton and 35% acetate staple.

Dayco Roll Coverings outperform all other roll coverings in test after test because they are built with exactly the right amount of cushion and the correct coefficient of friction to assure perfect drafting properties. Too, *Daycos* are not affected by temperature or humidity conditions. Their superior physical properties remain constant throughout their long life. In fact, the characteristics of *Dayco* Roll Covering are such that *Dayco's* surface drafting properties improve with use.

It will pay you in increased production and better quality products to standardize on *Dayco* Roll Coverings and other textile machinery products. For complete information, write *Textile Products Div., The Dayton Rubber Company, Woodside Building, Greenville, S. C.*

Write today for your free copy of Dayco's new Cot Grinder bulletin, No. A-550.

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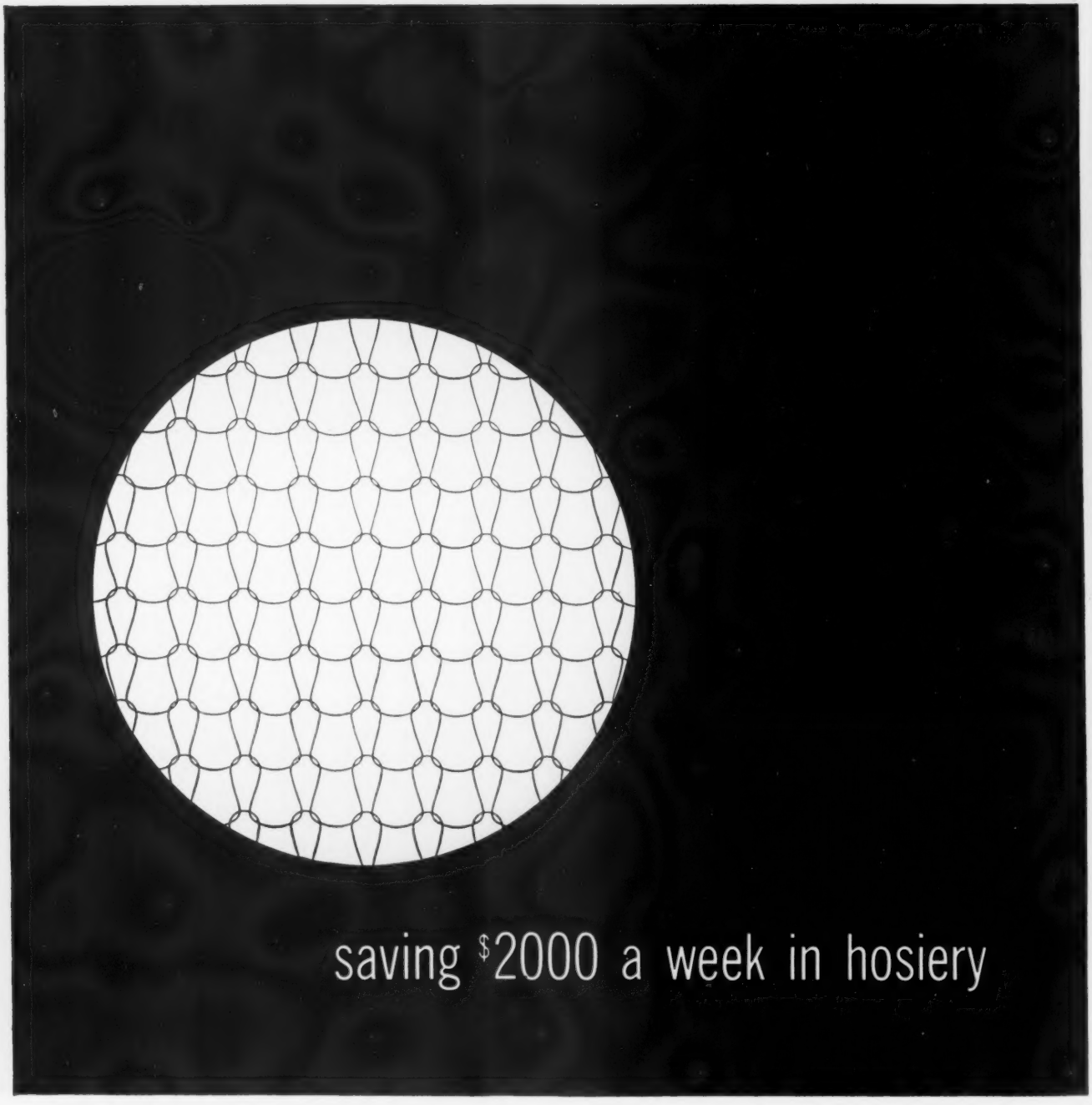

One Southern knitter of sheer hosiery has done it by adding Carrier Refrigeration to the existing humidifying system in his mill.

Close temperature control—coupled with uniform humidity—has almost eliminated irregulars. It keeps yarn tension right, resulting in more uniform lengths. It boosts production through the improved efficiency of workers. For 26 hot-weather weeks the higher prices for his output as a whole, plus savings on mending and machine adjustment, totaled over $52,000—an average of more than $2000 a week for the period.

Complete air conditioning—the Carrier kind—is a must in mills knitting nylon. Proper temperature and humidity levels keep sizing from becoming tacky, preventing pull-threads when the fabric is separated. Exact temperature control prevents expansion and contraction of precision machine parts, keeps them in adjustment longer.

Air conditioning for textile mills is a science. Carrier engineers have mastered that science through matchless years of experience in every phase of the textile industry. That helps make Carrier your best investment. Carrier Corporation, Syracuse, New York.

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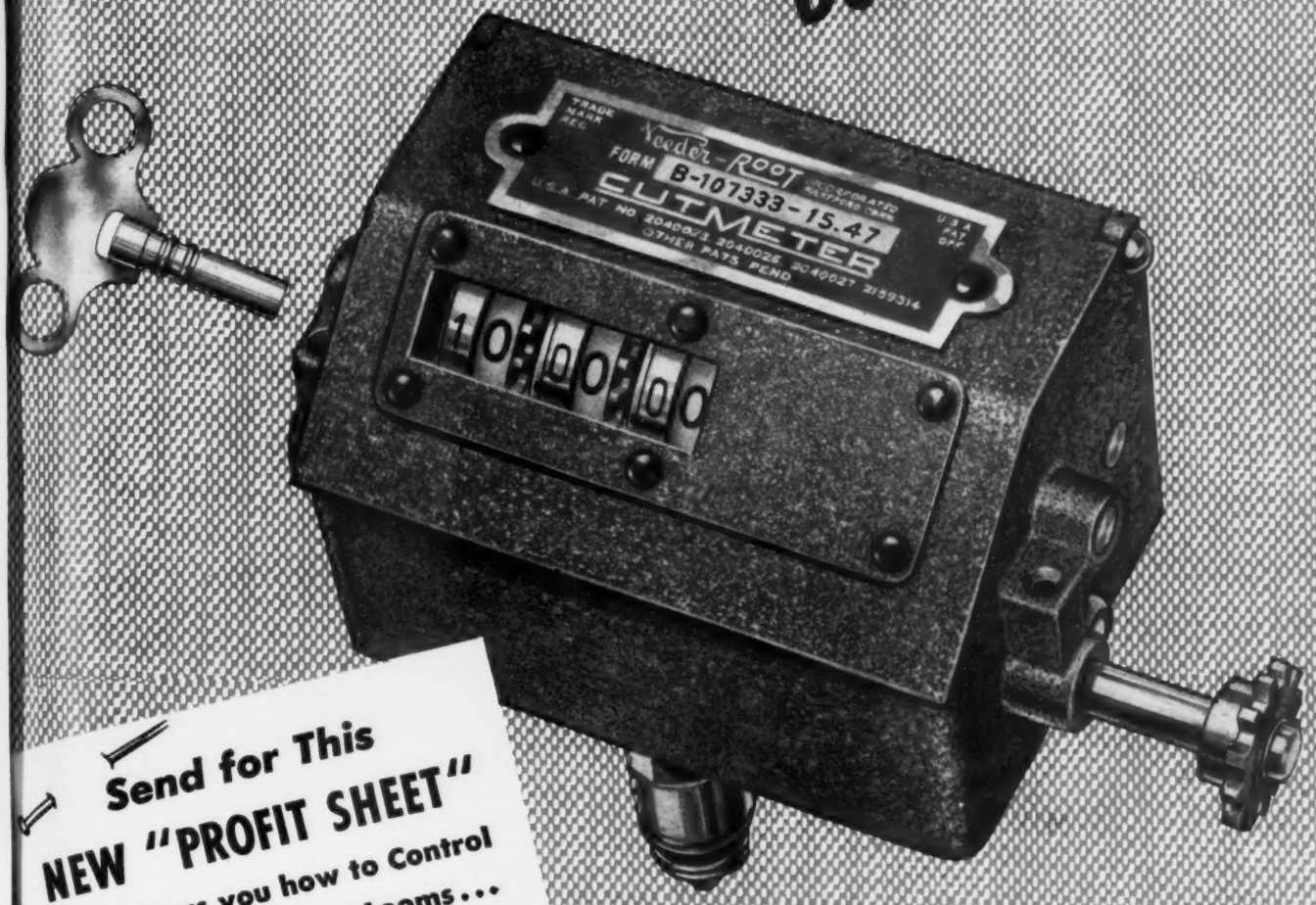

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CARBON AND STAINLESS STEEL

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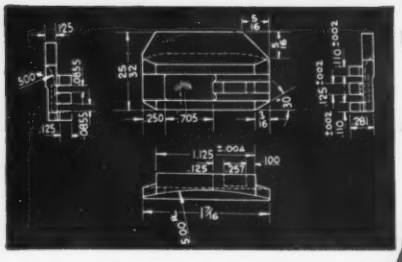
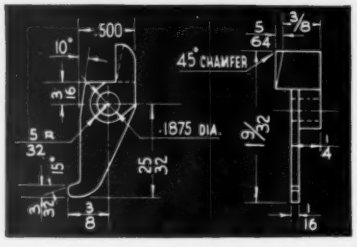


Replacing a part formerly produced from solid stock the precision casting eliminates costly machining operations.

Part:
SEWING MACHINE FEED DOG

Alloy: Miscrome 1 Weight: .6 oz. (A.I.S.I. Type 420 Nominal)



This intricate casting is used in the production of automotive generators and starters. The adoption of precision castings resulted in a cost saving of 94% on this part.

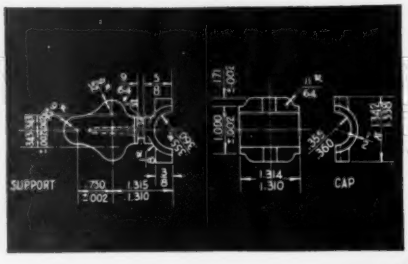
Part:
ROTOR WINDING PICK-UP FINGER

Alloy: Miscrome 5 Weight: .24 oz. (A.I.S.I. Type 440 Modified)

No measurable wear has been found on this part after thousands of miles of operation.

Part:
AUTOMOTIVE GOVERNOR FLY WEIGHT

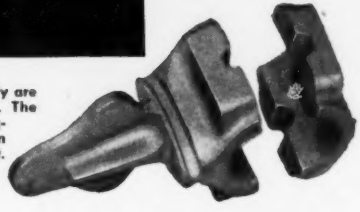
Alloy: Miscrome 5 Weight: 1 oz. (A.I.S.I. Type 440 Modified)



Both parts of this actuator assembly are precision-cast to close tolerances. The use of this process eliminated forging die expenses, and resulted in great reduction of machining cost.

Part:
BRACKET SUPPORT AND CAP (AIRCRAFT)

Alloy: Miscrome 1 Weight: 5.2 oz. (A.I.S.I. Type 420 Nominal)



MISCO PRECISION CASTINGS OFFER THE FOLLOWING ADVANTAGES

1. Low-cost production of small intricate parts which would necessitate expensive machining operations if made by conventional methods.
2. Large quantity production of small parts in materials which are difficult or impossible to forge or machine.
3. Eliminating waste of expensive materials such as stainless steels or semi-precious metals during ordinary machining operations.
4. Production of parts which cannot be made as a single unit by any other manufacturing process.
5. Reproduction of intricate shapes in extremely fine detail without machining.
6. Dimensional accuracy can be maintained to plus or minus .004″ per inch of length, width, diameter or thickness. (This is an average figure which can be bettered for certain parts and materials.)
7. Very smooth surface finish. Profilometer readings average 70-80 micro inches on production castings.
8. Cast grain structures are in many instances advantageous over either forged or rolled structures.
9. Precision castings are relatively free from internal stresses, due to the slow cooling rate of the metal in pre-heated molds.
10. Soundness is assured through X-ray control of feeding technique and accurate control of pouring temperature and pressure.
11. Small or negligible tooling costs.
12. Quick deliveries due to minimum time required for tooling.

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The striking qualities of the Misco Precision Casting Process are fully described in our 20-page booklet. Compiled to present the latest developments in precision castings to industries requiring small, accurate, steel parts in large quantities. It's new, complete, and authoritative. Send for your copy now.

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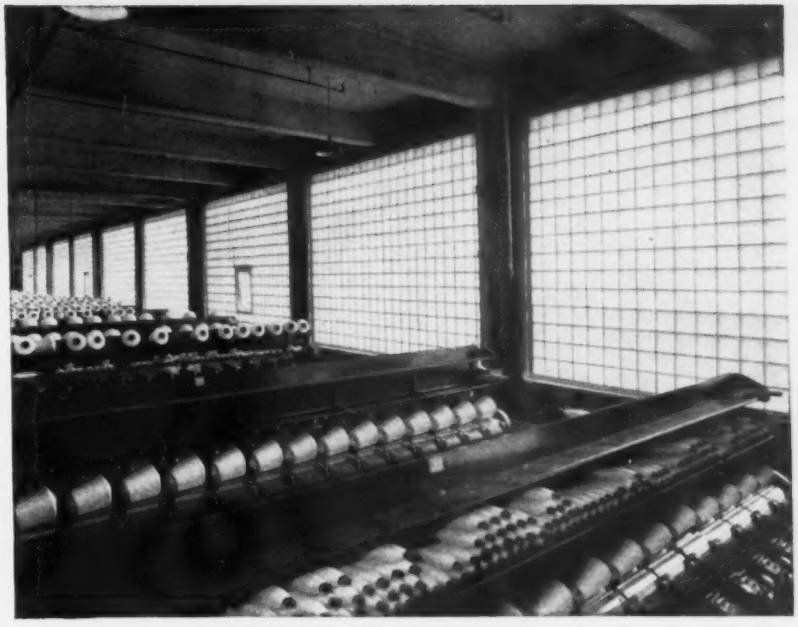
Better Interior Conditions Maintained with Glass Block

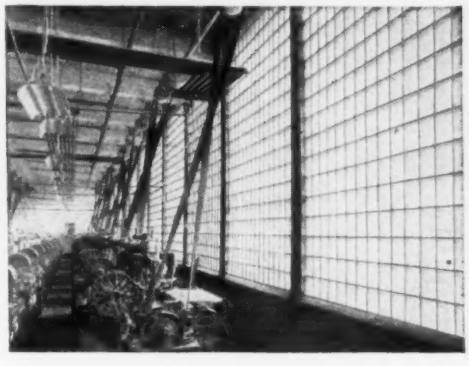
MILLS now using Insulux Glass Block report they have solved many tough problems peculiar to the textile business, and that Insulux has helped attain more-uniform humidities, less condensation, lower maintenance costs.

Pictures on this page represent only a few of the many mills which have experienced operational savings and improvements with Insulux.

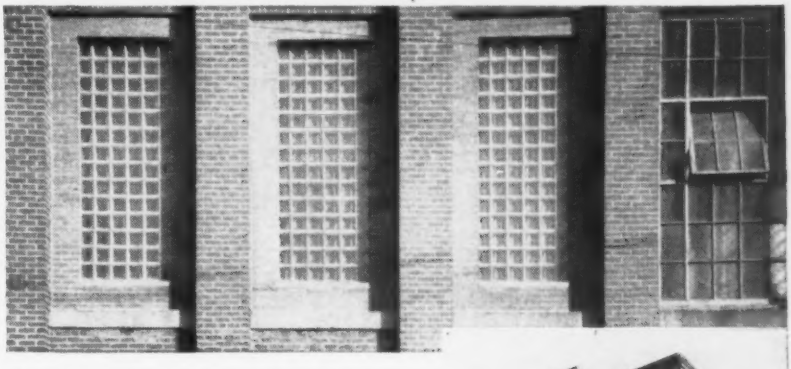
Get the facts on how Insulux Glass Block means less condensation, reduced maintenance expense, savings in fuel and improved interior daylighting. Mail the coupon below for your copy of "Daylight in Industrial Buildings."



Daylight floods this plant of Mexia Textile Mills, Mexia, Texas. Insulux transmits and distributes daylight to plant interiors, and at the same time provides excellent insulation.

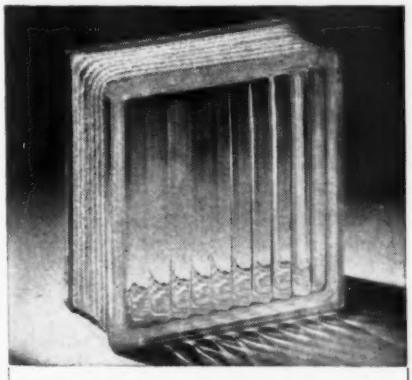


Less condensation with Insulux. The high insulation value of Insulux Glass Block also means reduced fuel costs. Illustration shows Insulux panels at Dixie Mercerizing Company, Chattanooga, Tennessee.



Maintenance costs are held to a minimum. Insulux needs no painting, can be easily cleaned with ordinary soap and water, and does not rot, rust or corrode. "Test panels" shown are at Bancroft Cotton Mills, Reading, Pennsylvania.

Infiltration is greatly reduced. Insulux helps keep plant air dust-free, eases the job of humidity control. In this picture of Apex Hosiery Mill, Philadelphia, Pennsylvania, sash replacement on the first floor has already been completed.



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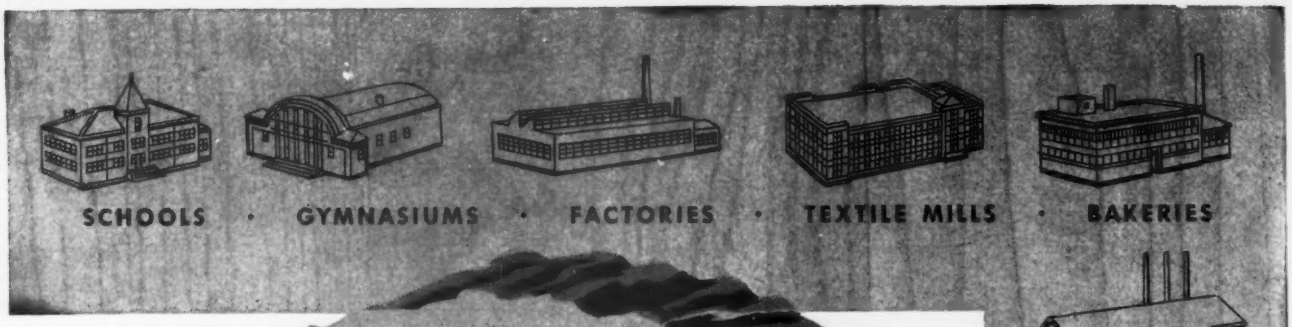

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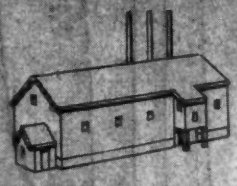

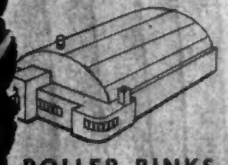

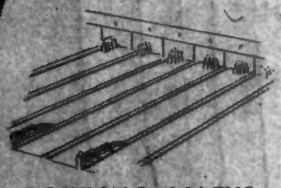

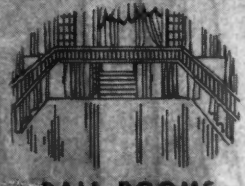

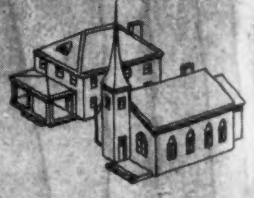

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During the past half century, association mills have produced more than four billion feet of this fine flooring. Many floors of tough-fibred, tight-grained Northern Hard Maple, laid thirty to fifty years ago, are still giving satisfactory service.

Industrial designers know that Northern Hard Maple can take punishment and stand up under constant wear. That's why millions of feet of Northern Hard Maple have been specified and laid in textile mill floors and other industrial floor spaces subjected to heavy usage.

Maintenance engineers know that Northern Hard Maple's resistance to wear means low upkeep cost. Traffic moves easily, safely, over its smooth, non-slippery surface. It resists spots and stains—can be thoroughly cleaned by brushing when properly finished.

Employees, too, know that Northern Hard Maple flooring is comfortable underfoot. Warm, dry—really resilient, hard maple floors reflect light, improve illumination.

Consult our Research Department when you have floor construction and finish problems. See Sweet's Section 13f/5 for technical data.

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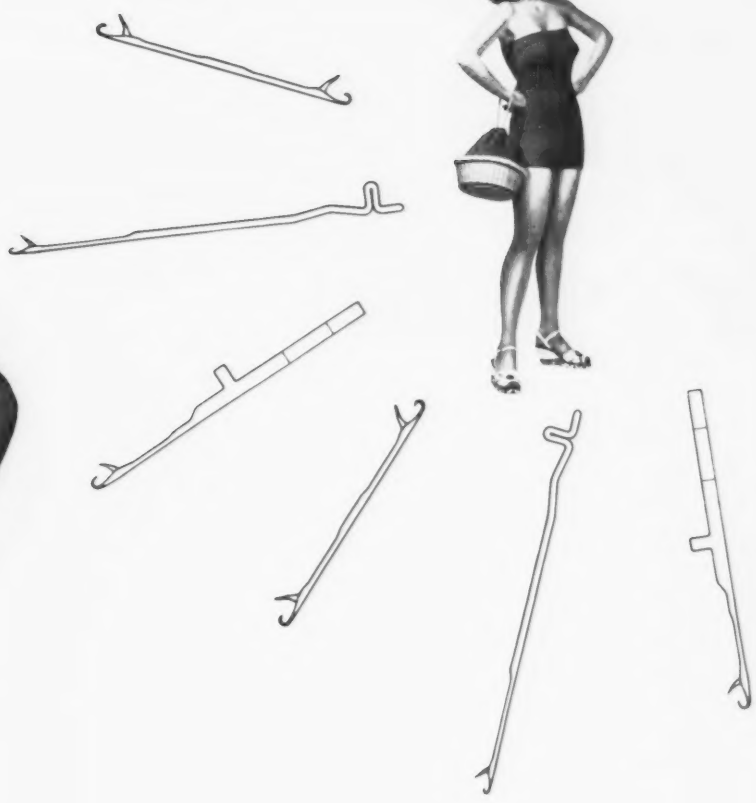

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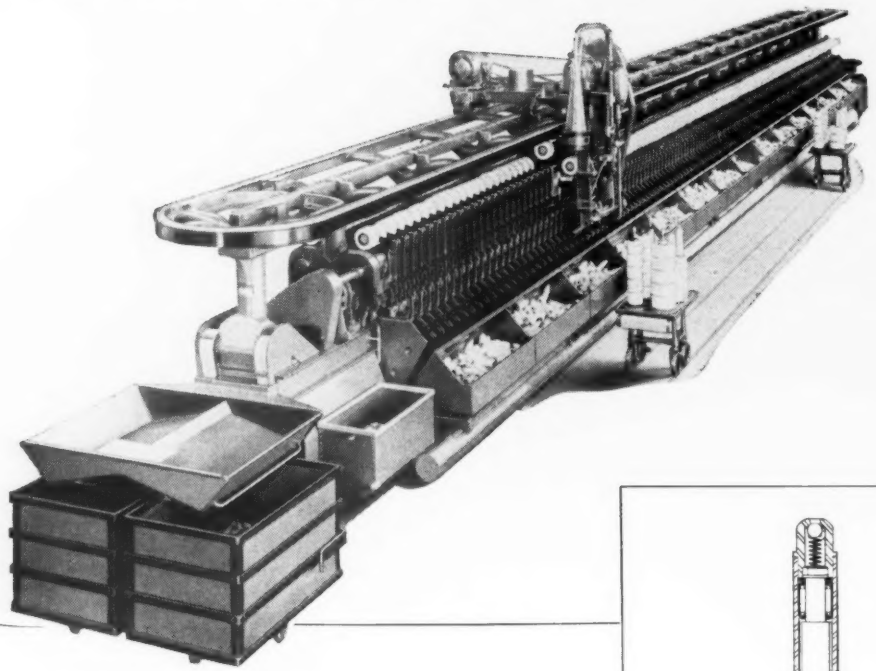
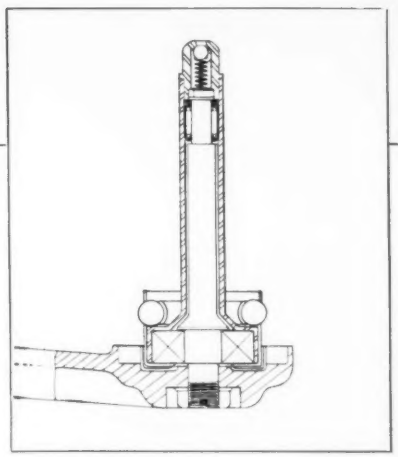
Torrington Needle Bearings Reduce Friction and Wear in Barber-Colman Automatic Spoolers





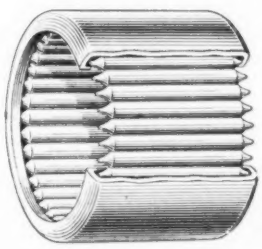
X-section of Spooler cheese arm spindle shows how Barber-Colman secures efficient anti-friction operation in limited space through use of Needle Bearings in Automatic Spoolers.

. . . these compact anti-friction units prove ideally suited to space, speed and load requirements of textile machines.

The Barber-Colman Automatic Spooler operates at speeds from 900 to 1200 yards per minute. Uniform low tension under these high speed winding conditions is obtained by many mechanical improvements, including the use of Torrington Needle Bearings.

These efficient anti-friction units reduce friction and wear. Long service life and maintenance of precise operation result. The unusually high unit capacity of Torrington Needle Bearings enables them to handle heavy cheeses with an unusually compact, space- and weight-saving design. Efficient retention of lubricant reduces oil leakage and prevents soiling of yarn.

These and other advantages secured in Barber-Colman Spoolers, Warpers and Bobbin Winders can be engineered into your equipment, too, through the use of Torrington Needle Bearings. Call on the specialized experience of Torrington's engineers.



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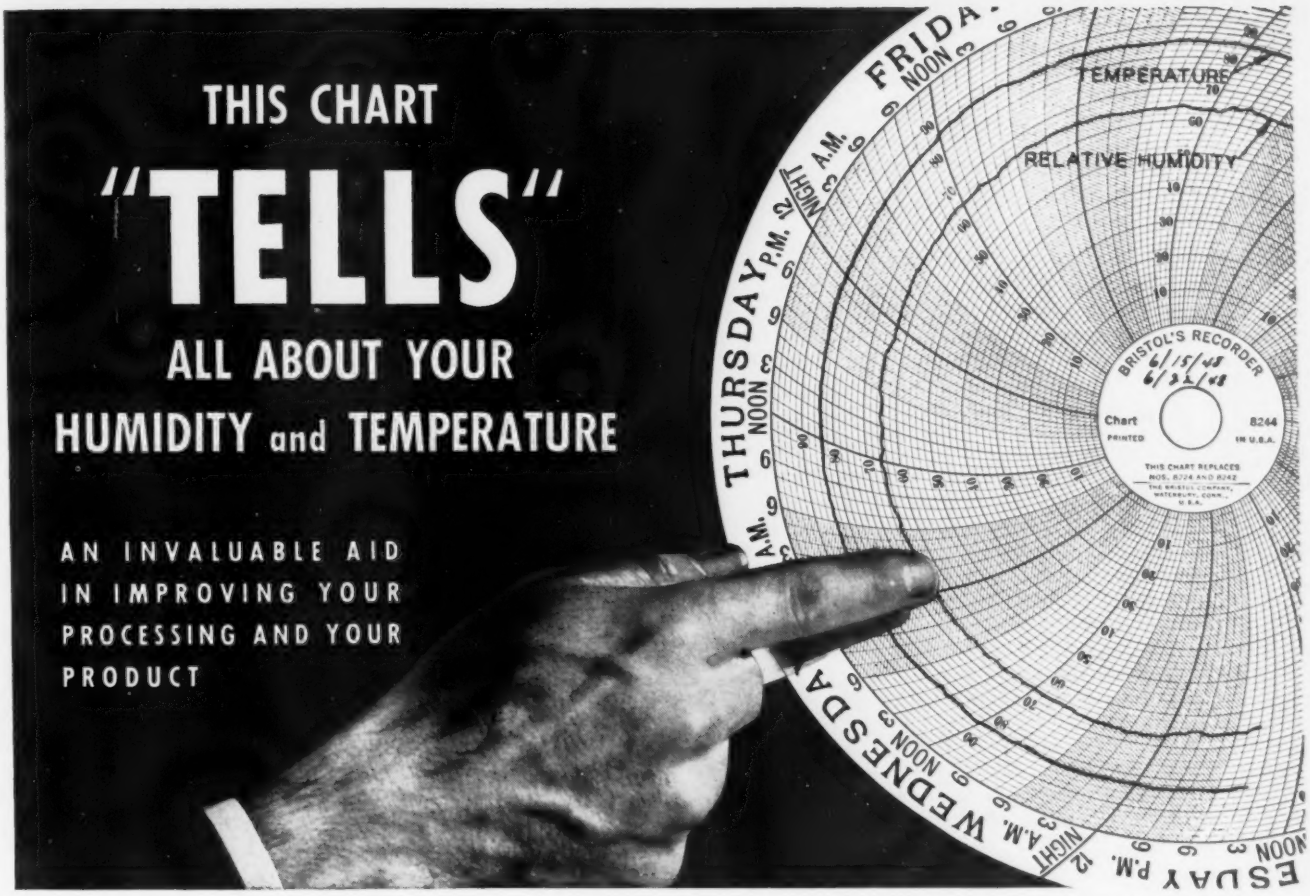
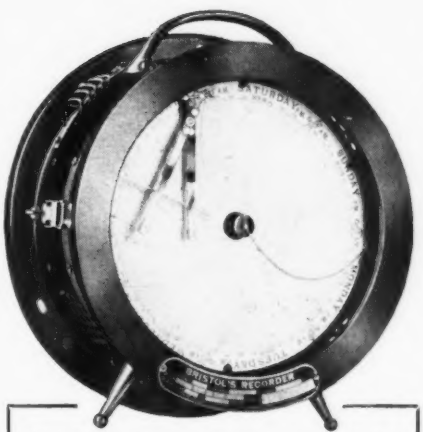


According to the engineer of the full-fashioned silk hosiery mill who sent us this chart, Bristol's Thermo-Humidigraph helps "maintain an even temperature and humidity, thereby saving money by cutting down waste and giving a more uniform product".



Bristol's Thermo-Humidigraph records both the relative humidity and temperature of the surrounding air.

CARRIED IN STOCK FOR IMMEDIATE SHIPMENT
WRITE FOR DETAILS

Approximate net weight, 12 lbs. The best your money can buy in a portable, simple, compact, lightweight relative humidity and temperature recorder. Easy-to-read 8 inch chart.

This Bristol's Thermo-Humidigraph welcomes your closest scrutiny. PORTABLE, compact, lightweight, you can place it anywhere — indoors or outdoors — and it will give you an accurate visual picture of surrounding humidity and temperature conditions.

Bristol's Thermo-Humidigraph is *direct reading*. Just a glance at the round chart, and you at once know the humidity and the temperature. No need for referring to humidity tables. No computations. No wet bulb — no fussing. This Thermo-Humidigraph is as easy to read as your watch. Measurement is by means of a new, improved hygroscopic recording element.

The following comments are typical:

WOOLEN MILL: "Thermo-Humidigraph gives us a check on the machines used for correcting the humidity . . . the value of constant humidity is that we can keep a better check on the weight of the yarn."

ROPE MANUFACTURER: "We feel Thermo-Humidigraph provides the most economical method of providing a record of the relative humidity in our manufacturing."

HAT MANUFACTURER: "The elimination of doubt as to causes of trouble has enabled us to maintain uniform conditions and has reduced losses owing to lack of, or surplus of, moisture."

Order now, while you think of it — under our complete satisfaction guarantee.

WHERE BRISTOL'S THERMO-HUMIDIGRAPH WILL SHOW YOU HANDSOME SAVINGS

COTTON: Carding, combing, roving, spinning, weaving.

RAYON: Spinning, twisting.

SILK: Dressing, spinning, throwing, weaving, knitting.

WOOL: Carding, spinning, weaving.

THE BRISTOL COMPANY
157 BRISTOL ROAD
WATERBURY, CONNECTICUT
Branch Offices in Principal Cities

BRISTOL'S Thermo-Humidigraph

TRADE MARK REG. U.S. PAT. OFF.

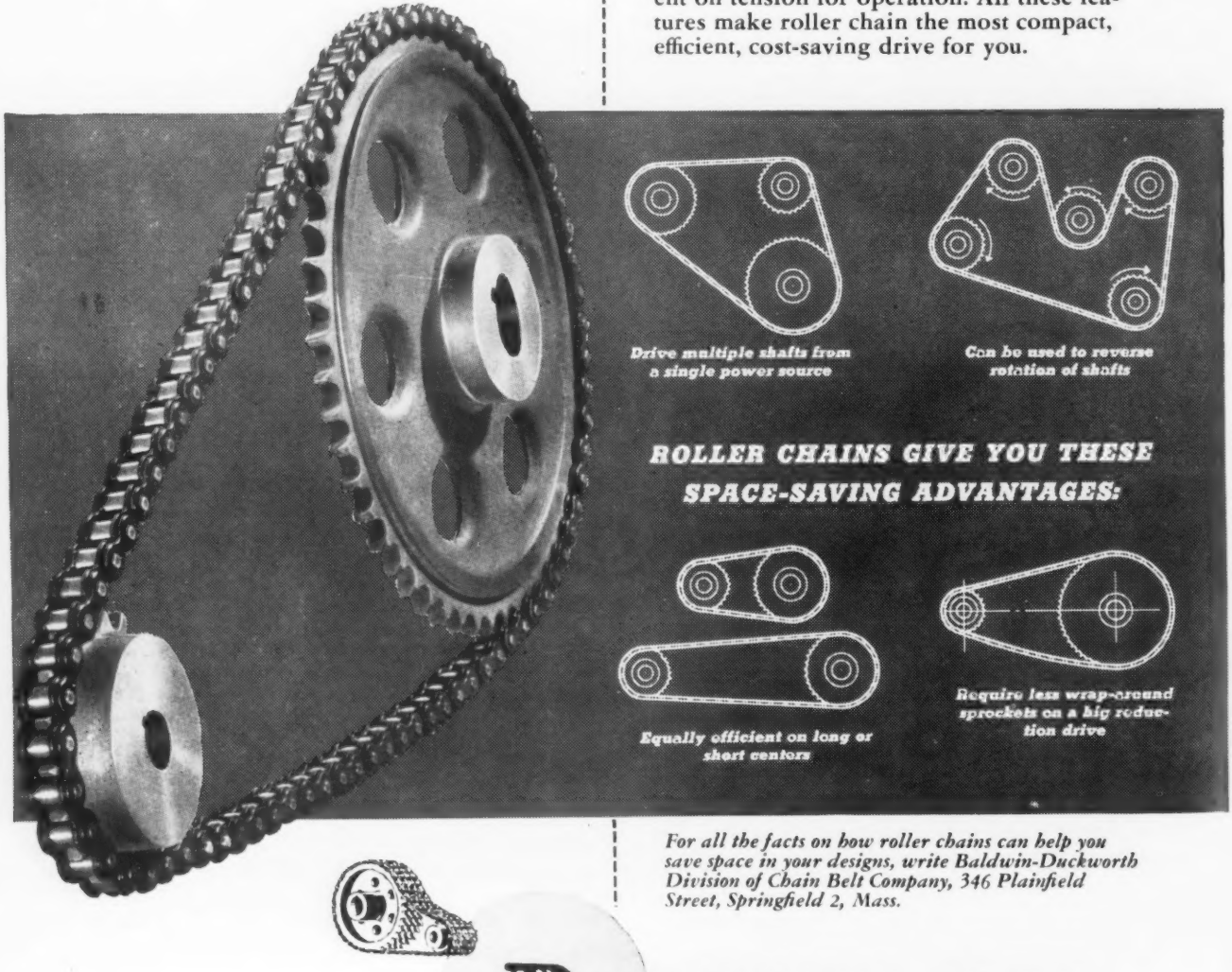
THE HANDY PORTABLE DIRECT-READING RELATIVE HUMIDITY RECORDER

You can save space... add flexibility . . . with roller chain

With the present trend toward compactness in design, the outstanding advantages of roller chain become more important than ever to the machine designer. With roller chains, you can:

Save Space. Regardless of load conditions or speeds, roller chains require less width to effectively transmit power. Since they are not dependent on tension for effective operation, sprocket size can be held to the minimum, particularly on drives where there is a considerable reduction in speed ratios.

Add Flexibility. Since roller chains can be flexed in either direction, they can be used to reverse direction of shaft rotation. They can drive multiple shafts from a single power source. Shafts can be located vertically, horizontally or at any angle. Center distance can be short or long. No additional strength need be built into shafts and bearings as is often required by the extra load imposed on these parts by a drive dependent on tension for operation. All these features make roller chain the most compact, efficient, cost-saving drive for you.


Drive multiple shafts from a single power source
Can be used to reverse rotation of shafts
ROLLER CHAINS GIVE YOU THESE SPACE-SAVING ADVANTAGES:
Equally efficient on long or short centers
Require less wrap-around sprockets on a big reduction drive

For all the facts on how roller chains can help you save space in your designs, write Baldwin-Duckworth Division of Chain Belt Company, 346 Plainfield Street, Springfield 2, Mass.

BALDWIN·REX

ROLLER CHAINS

BALDWIN-DUCKWORTH DIVISION OF CHAIN BELT COMPANY

Is Your Steam Accounting System Just As Antiquated

No one would think of firing a modern steam generator in this manner, but many plants are employing methods for approximating steam costs that are equally wasteful and outmoded.

With Brown Recording and Integrating Flow Meters, steam costs for power, processing and heating can be accurately determined—by departments or units and for every hour out of the 24. The dual chart record of rate and quantity immediately reveals any deviation from the most efficient operating standards.

Get the evidence of how steam cost savings are being effected in hundreds of plants. Write for Bulletin 2022—"Brown Flow Meters for Cost Accounting."

AUTOMATIC PLANIMETER. Records units of steam consumption on rim of chart. Shows steam used during any part of a 24-hour period.

INTEGRATOR. Totalizes steam consumption; gives the number of pounds used between successive readings.

THE BROWN INSTRUMENT COMPANY, 4509 WAYNE AVE., PHILADELPHIA 44, PA.
DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR CO.
Offices in principal cities of the United States, Canada and throughout the world.

BROWN *Cost Accounting* **FLOW METERS**
Product of MINNEAPOLIS Honeywell

—LOOMS BIG

When "work" runs bad—when production is cut because of "pick-outs" and the percent of "seconds" is on the increase, look behind the looms. Lack of air for "blow-down" between beam doffs and during "scheduled cleaning" periods because of air compressor or vacuum pump failure often lowers quality and production. Correct lubricants best assure unfailing performance.

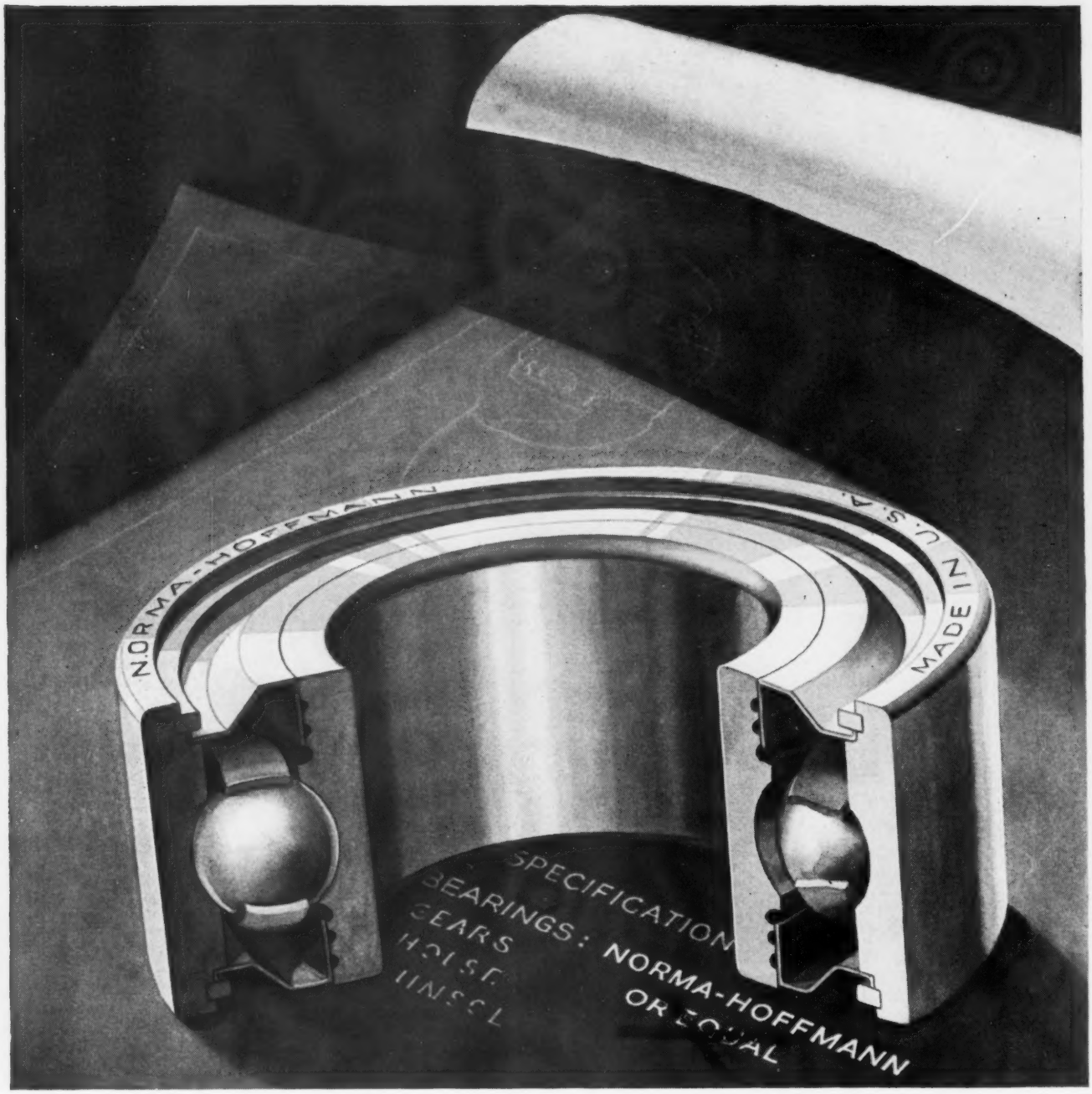
A long history of satisfactory performance lies behind the use of RUBILENE OIL for the lubrication of textile mill auxiliary equipment. Its fine qualities make it first choice for this important job of lubricating heavy-duty air compressors and vacuum pumps. Let us advise you on the correct grades of RUBILENE for your specific installations.

SINCLAIR

. BEHIND THE LOOMS

TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N.Y.



. . . There Is No Equal!

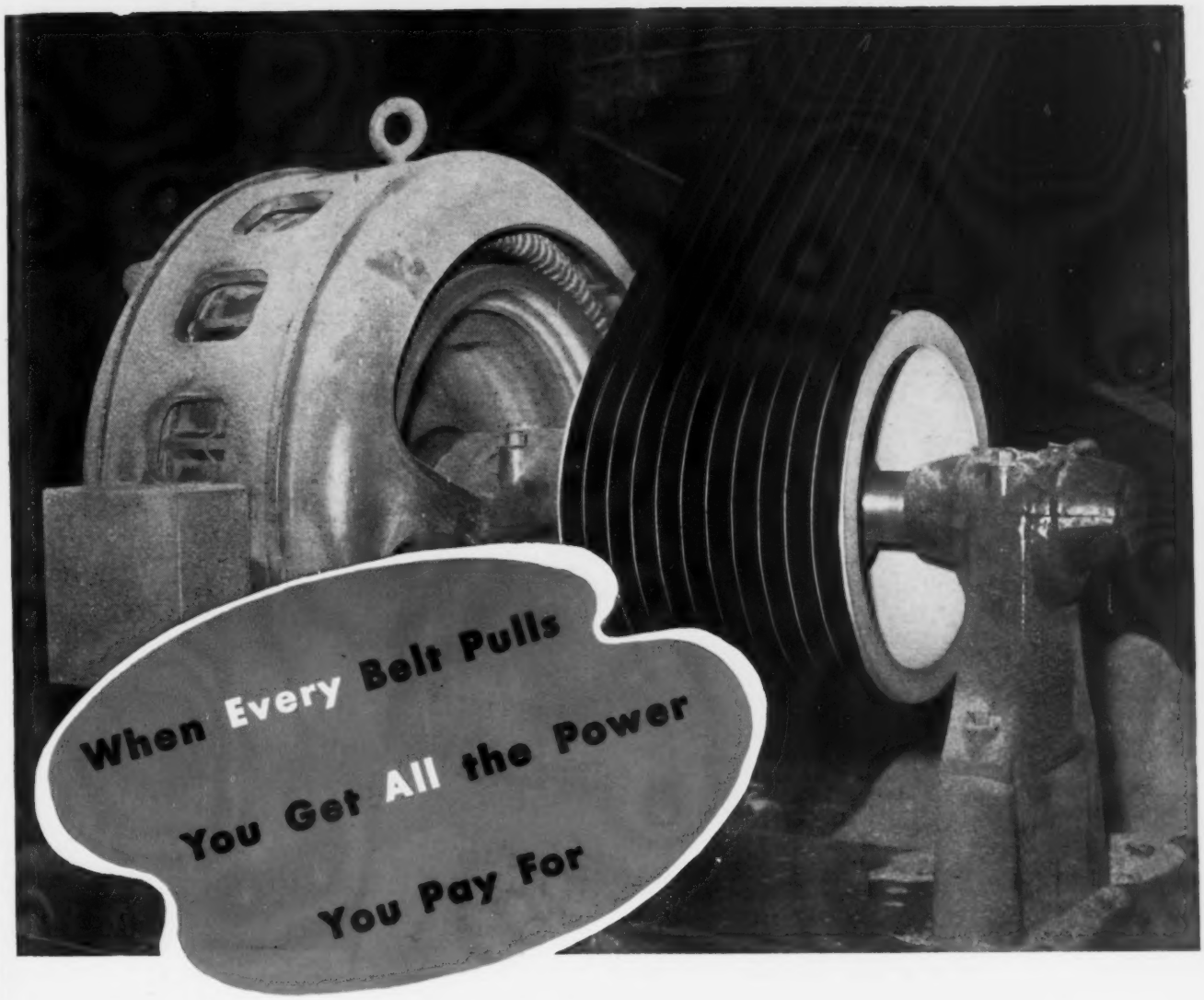
Leading manufacturers endorse the patented Norma-Hoffmann "Cartridge" Bearing because it is unequalled for continuous performance and long operating life.

The highly efficient seals plus the carefully metered volume of Norma-Hoffmann's specially compounded grease combine to give this bearing its unique operating characteristics. Designers of all types of equipment know from experience that there is no equal to its long-lived, efficient performance.

To give *your* customers greater value in *your* products, be sure your design prints read—"Norma-Hoffmann '*Cartridge*' Bearings."

NORMA-HOFFMANN
Precision
BEARINGS
BALL • ROLLER • THRUST

NORMA-HOFFMANN BEARINGS CORPORATION, STAMFORD, CONNECTICUT • FIELD OFFICES: New York, Chicago, Cleveland, Detroit, Pittsburgh, Cincinnati, Los Angeles, San Francisco, Dallas, Seattle, Phoenix



Condor Whipcord V-Belts are Pre-Stretched

Uneven stretch in a multiple V-Belt drive overloads some belts while others ride slack. Power is lost and V-Belt life is shortened. Manhattan engineers have designed Condor Whipcord V-Belts to insure the most uniform team performance possible.

During manufacture, the stout Whipcord Strength Member, endless wound to form the load-carrying core of the belt, is pre-stretched. This Whipcord Strength Member is placed in the neutral axis area of the V-Belt and surrounded by heat dissipating, slow aging Flexlastics. Thus, the percentage of stretch is practically nil.

On your multiple V-Belt drives, every Condor Whipcord V-Belt wedges firmly in the sheave and delivers *all* the power you are paying for. Send for free engineering data applicable to your drives.

Manhattan's line of rubber products for Industry is consistently dependable—outstanding in quality. Make MANHATTAN your choice.

("Flexlastics" is exclusive with Manhattan)

RAYBESTOS R M MANHATTAN

RAYBESTOS-MANHATTAN INC.

Keep Ahead with Manhattan

MANHATTAN RUBBER DIVISION **PASSAIC, NEW JERSEY**

UNION PACIFIC

The Governor of Nebraska *invites You*

VAL PETERSON
GOVERNOR

STATE *of* NEBRASKA
EXECUTIVE OFFICE
LINCOLN

To American Industry:

In the last decade, Nebraska's productive capacity has grown threefold. Modern industry has found in increasing numbers that Nebraska's diversified assets form the economic cornerstone of a better tomorrow!

Here there is respect and reward for individual initiative, whether its hallmark be overalls or a business suit. Nebraskans prize ingenuity, cooperation and achievement. Their fundamental faith is reflected by Nebraska government in a conscientious resolve against debt, restrictive taxes and regulatory legislation.

In behalf of all citizens, I invite industry to share Nebraska's unique heritage as the continental crossroads of commerce and heart of a land unmatched in natural wealth.

Sincerely,

Governor

Val Peterson

* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
Omaha 2, Nebraska

UNION PACIFIC RAILROAD

Road of the Daily Streamliners

HOW THIS PATTERN WAS PRINTED IN— *Australia*

Printex Pty. Ltd. a leading screen printer in Sydney, Australia, selected Aridye® Pigment Colors for this gay, fast-color design on Cellular Cotton. They began using Aridye colors about two years ago after learning of the simplicity with which pigmented water-in-oil emulsions can be applied either for machine or screen printing.

The floral pattern was printed with Aridye Blue FC2G, cut with Aridye Clear 6214. The dark blue was cut 1:10, and the light blue 1:100. After printing in the usual way, it was then merely air dried and heat treated to provide maximum fastness to washing and dry cleaning. *No ageing, soaping, washing, or other acid treatment was necessary.*

Aridye's ease of application and numerous other advantages are solving problems for progressive textile printers in many parts of the world. An Interchemical textile representative will be glad to discuss the numerous ways in which they will be of benefit to *you*. For full details, write to Interchemical Corporation, Textile Colors Division—Pioneers in Pigment Colors for Textiles—Box 357, Fair Lawn, N. J.

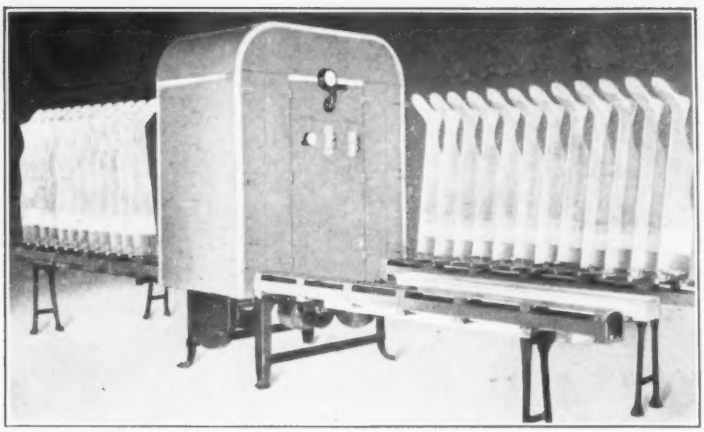
CHECK THESE EIGHT ADVANTAGES

Sharpness of Mark • Exceptional Fastness to Sunlight
Uniformity of Shade • Fastness to Washing • Bright Colors
Economy • Ease of Application • No Impairment of Hand

Aridye *Pigment colors*

CHEMICAL CORPORATION, TEXTILE COLORS DIVISION • FAIR LAWN, N. J. • ROCK HILL, S. C. • PROVIDENCE, R. I.

Sole Distributor for Australia: John Beith & Co., Pty. Ltd., Union House, George St., Sydney



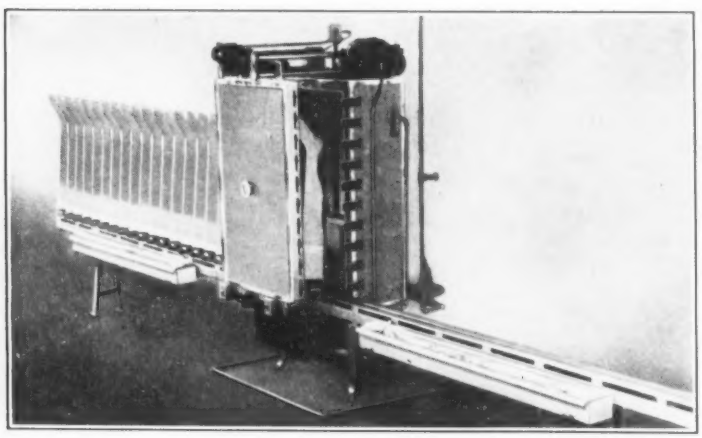
Turbo's boarding machine is the latest offer to the finishing of stockings . . . requires 2 men or 2 girls to operate.

Its "quick dry" feature eliminates prolonged drying in extremely dry air . . . eliminates all static. Adaptable to fine denier hosiery. Designed flow of hot air draft is directed over the toe, down over the leg and welt, and returns to be recirculated. No disturbance of boarded fabric.

Quality stockings with TURBO BOARDING and PREBOARDING MACHINES

An automatic preboarding machine which requires but one man or one girl to operate.

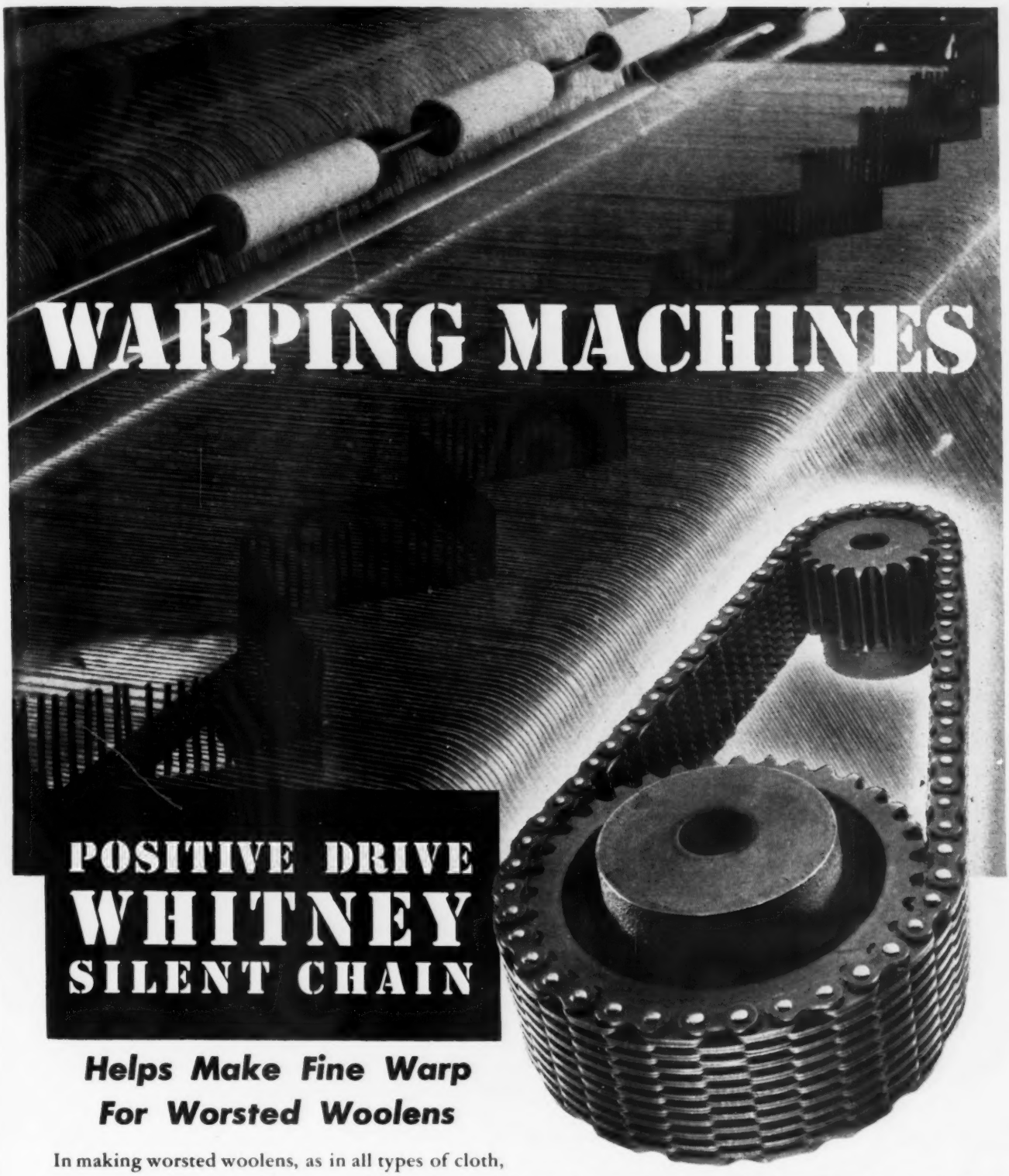
Here is a machine for simplicity in preboarding fine denier hosiery. Accommodates 36 forms which are easily removable. Electrically operated. A.S.M.E. approved pressure chamber.



Turbo's finishing equipment is worthy of your investigation today because it offers savings which increase your profits. Write us for full details.

TURBO MACHINE COMPANY

LANSDALE • PENNSYLVANIA



POSITIVE DRIVE WHITNEY SILENT CHAIN

Helps Make Fine Warp For Worsted Woolens

In making worsted woolens, as in all types of cloth, constant machine speed is a must for product uniformity. Whitney Silent Chain Drives help you get and maintain high quality by transmitting smooth, never-varying power from driver to driven elements. Firmly seated in sprockets, these chains deliver full power without slippage. Their positive grip means that your machines will run at full rated speeds, thus assuring maximum production. They are easily installed or dismantled . . . give years of quiet operating life with minimum time out for maintenance. If you are a manufacturer or user of textile machinery, it will pay you to investigate Whitney Chains and Cut Tooth Sprockets . . . the *all Steel Drives.* Write for complete information today.

Whitney Chain & Mfg. Co.

DIVISION OF WHITNEY-HANSON INDUSTRIES, INC.

211 Hamilton Street, Hartford 2, Conn.

TORTURED ON THE RACK FOR LONGER SERVICE LIFE

QUAKER PRE-TESTED PRODUCTS FOR THE TEXTILE INDUSTRY ASSURE LONG TROUBLE-FREE SERVICE

Test the finished products until they break down! That's the aim of the technical men in Quaker's modern laboratories. The results of these torture-tests are the reasons why Quaker Hose, Belting, Packings, moulded goods and other industrial products stand up so much longer in use. They're pre-tested and performance-proved!

The adhesion test shown is just one of the 18 torture-tests. Here weights are attached to the rubber section of the product for the purpose of stripping off the fabric. Tight adhesion of rubber-to-fabric is an important factor in the long-lasting quality of belting, hose and packings. Checking the adhesive qualities of rubber in Quaker products assures strong resistance to ply separation . . . prevention of product breakdown in service.

For higher plant efficiency and lower operating costs specify long-lasting, pre-tested Quaker Products. Call your nearest Quaker distributor. He and the Quaker sales engineer are teamed to provide accurate recommendations on industrial rubber products.

QUAKER RUBBER CORPORATION

PHILADELPHIA 24, PA. • New York 7 • Cleveland 15 • Chicago 16 • Houston 1
Western Territory
QUAKER PACIFIC RUBBER CO. • San Francisco 10 • Los Angeles 21 • Seattle 4

QUAKER RUBBER CORPORATION · PHILADELPHIA, PA. · QUALITY SINCE 1885 · REG. U. S. PAT. OFF.

QUAKER *Pre-Testing* OFFERS THE TEXTILE INDUSTRY

BELTING FOR MAXIMUM HORSEPOWER TRANSMISSION

Huge flat belts driving large flywheels or fractional horsepower drives on small motors . . . Quaker pre-testing develops belts for every need of the Textile Industry . . . belts to assure peak efficiency under all operating conditions.

HOSE THAT STANDS WEAR AND ABRASION

Hose for air, steam, water or chemicals in all sizes . . . Quaker makes it and makes it to fit the needs of the Textile Industry . . . each pre-tested for peak performance.

PACKINGS FOR TIGHTER SEALS . . . LONGER WEAR

Quaker packings are scientifically engineered for every use—for pumps, compressors, water lines, valves and many other places in the Textile Industry.

QUAKER RUBBER PRODUCTS
custom made for every industrial use

Whether a Few Gallons - - -

Century 3 horsepower repulsion start induction motor driving a deep well pump for swimming pool and home and farm water supply.

Century 200 horsepower squirrel cage motor driving a city water works pump, supplying 2,000,000 gallons per day.

Century 40 horsepower squirrel cage motor driving an irrigation pump.

Century 150 horsepower squirrel cage motor driving a water pump for an electric central station.

Or Millions of Gallons Per Day

CENTURY MOTORS
Supply *Dependable Power*

Over a million Century motor driven pump installations in use is proof of Century's acceptance in the pumping field. These installations range in size from water systems for small cottages to city water systems pumping millions of gallons per day.

In addition to water pumps, Century motors supply power for milk, liquid food and beverage pumps, brine pumps, bilge pumps, pulp pumps, dye pumps, acid pumps, alkali pumps, oil well pumps, and gasoline pumps.

Century pump motors are particularly adapted to the requirements of pumping service. They start and run smoothly and quietly—and with a minimum of vibration Century's triple insulation effectively resists humidity and dampness.

To meet the requirements of any surrounding atmosphere, Century motors are supplied with drip proof, splash proof, totally enclosed fan cooled or explosion proof frames.

Century builds a complete line of electric motors in sizes from 1/6 to 400 horsepower to meet the requirements of industrial and commercial needs.

Specify Century motors for all your electric power requirements.

Century C MOTORS

CENTURY ELECTRIC CO., 1806 Pine Street, St. Louis 3, Mo.

Offices and Stock Points in Principal Cities

CE-598

LOOK WHO'S COOKIN'!

AS you suspected, it's that panel of Taylor Fulscope Time Schedule Controllers. They're carrying out the whole size cooking operation automatically! The operator has just loaded a cooking kettle, pushed the starter button, and stepped out of the picture. The Fulscope Indicating Controller on the wall maintains the proper storage temperature.

This scene in one of the south's largest denim mills shows how Taylor Accuracy is helping to keep quality up and costs down. Once the ideal cooking schedule is determined, the Taylor control system faithfully reproduces each succeeding batch of size. It prevents overcooking and overboiling and insures uniformity. And the dual-case construction of each Fulscope permits easy accessibility to both control mechanism and cam and trip mechanisms.

This system is only the first step toward automatic control of the entire slashing operation. Ask your Taylor Field Engineer for further information on our control systems for all four steps: *size cooking, storage kettle temperature control, size box level control,* and finally, *slasher cylinder control.* Or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

▾ ▾ ▾

Instruments for indicating, recording, and controlling temperature, pressure humidity, flow and liquid level.

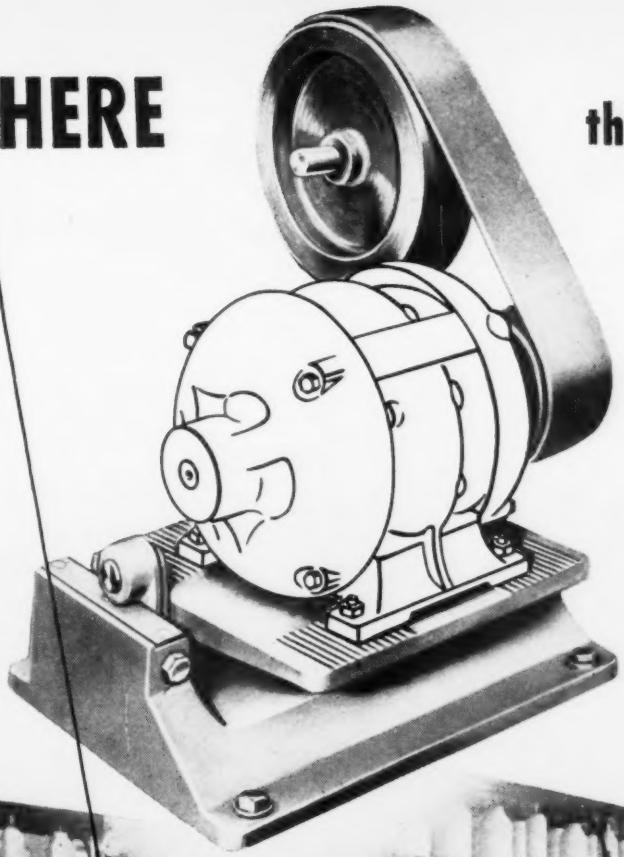
Taylor Instruments

MEAN

ACCURACY FIRST

IN HOME AND INDUSTRY

WHERE this "tension regulator" holds wear to a minimum

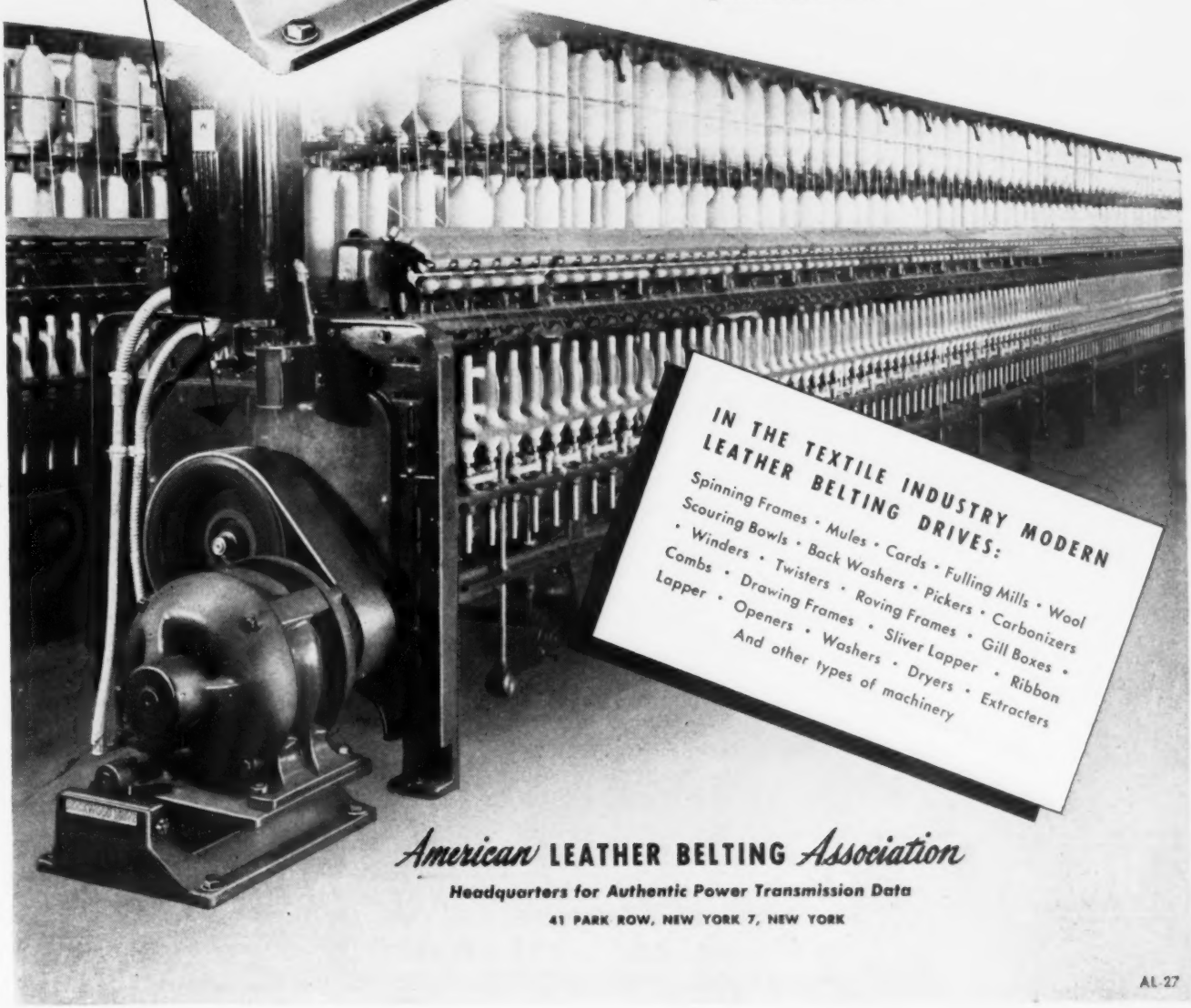


The modern leather belt, pivoted base drive minimizes wear on bearings and in the belt itself by governing tension.

With this type of drive you can predetermine and automatically maintain the proper belt tension to drive your machines efficiently. The base lets the motor lean into the belt . . . keeping it just tight enough to carry the peak, initial load without slipping. You get a smooth, fast, sure start that means fewer ends down.

The first quality leather belt "cooperates" with the base by providing a strong pulley grip and a shock absorbing capacity that make the job even easier for motor and machine bearings.

Ask your leather belting supplier about the pivoted base drive.


IN THE TEXTILE INDUSTRY MODERN LEATHER BELTING DRIVES:
Spinning Frames • Mules • Cards • Fulling Mills • Wool Scouring Bowls • Back Washers • Pickers • Carbonizers • Winders • Twisters • Roving Frames • Gill Boxes • Combs • Drawing Frames • Sliver Lapper • Ribbon Lapper • Openers • Washers • Dryers • Extracters
And other types of machinery

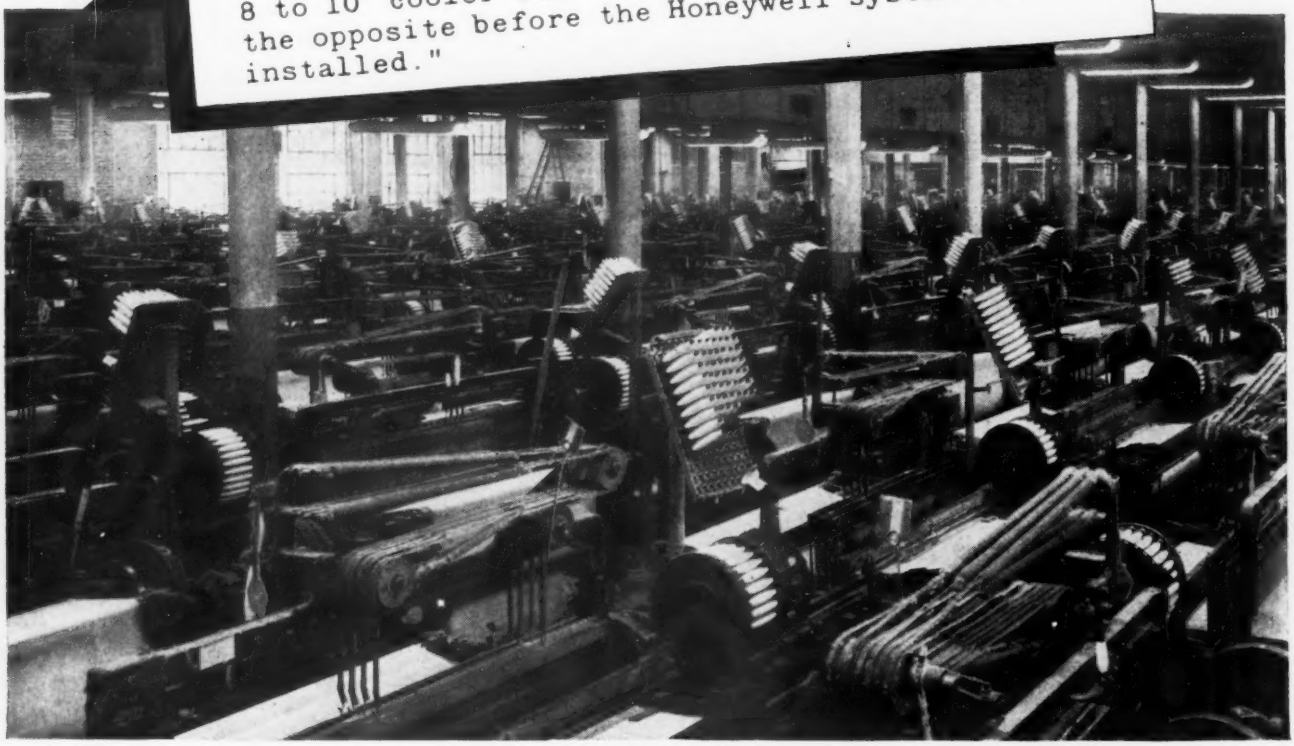
American LEATHER BELTING *Association*

Headquarters for Authentic Power Transmission Data

41 PARK ROW, NEW YORK 7, NEW YORK

AL-27

"Morale of workers has improved greatly. During the summer, the temperature inside the plant was 8 to 10° cooler than outside; whereas it was just the opposite before the Honeywell system was installed."



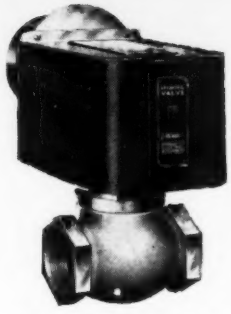
Carrier Corporation — Air Conditioning Contractor • *P. L. Davidson — Consulting Engineer*

TWO years ago a southern mill undergoing a thorough modernization program began operation of its evaporative cooling plant. One problem was to eliminate harmful variations in relative humidity, and another was to reduce room temperature for the comfort of the workers.

During the hottest days of summer it was found that the weave room (despite the heat created by its thousand looms) was about 15° cooler than the outside. Moisture was held at the selected level of 85% relative humidity.

The air conditioning system, using Honeywell pneumatic controls, provides the desired relative humidity and holds the temperature at a comfortable level. As a direct result there has been a marked improvement in over-all production, reflected by a 3880 lb. weekly increase from combers alone.

Take advantage of Honeywell's many years of experience in the field of industrial and commercial air conditioning by consulting with our engineers to recommend the air conditioning control system best suited to your individual requirements. Minneapolis-Honeywell, Minneapolis 8, Minn. In Canada: Toronto 12, Ontario.



Air Operated Control Valve

•

The Brown Instrument Division of Minneapolis-Honeywell supplies the Textile Industry with instruments and complete systems for the measurement and control of textile processes. Each unit of every control system is accurately co-ordinated with operating conditions to increase efficiency and production, and assure economical operation. They include controls for Slashers, Size Level, Size Temperature, Cylinder Temperature, Moisture Content, Continuous Bleach, Dyeing, Size Cooking and Storage, and many others.

MINNEAPOLIS Honeywell

Advanced Pneumatic Controls
FOR AIR CONDITIONING

BROWN

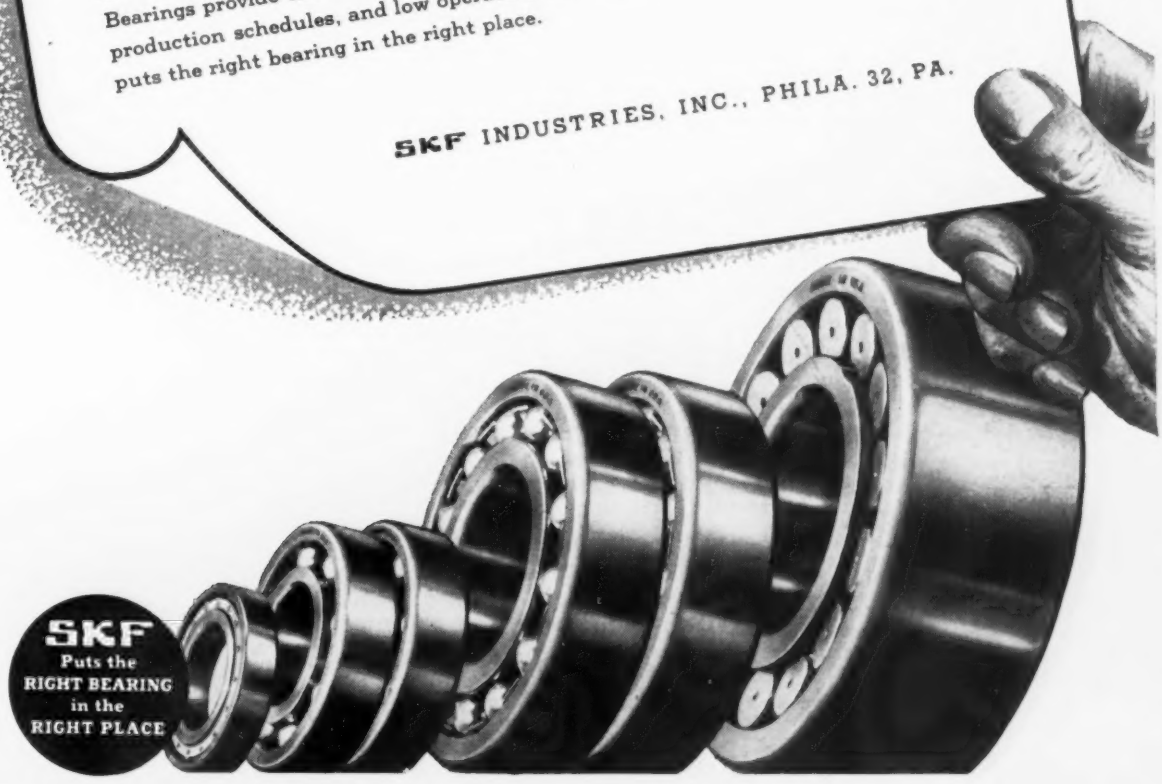
• *Built by* FLETCHER WORKS, INC.

FOR DRYING AT 1,000 RPM.

It's perfectly obvious why SKF Ball Bearings support the 48" basket of this High Speed "Whirlwind" Extractor. They permit the *highest speeds* for the *most* drying in the *least* time. While this basket operates at speeds up to 1,000 rpm., SKF Bearings provide the smooth performance that leads to quality work, maintained production schedules, and low operating costs. More convincing proof that SKF puts the right bearing in the right place.

6488

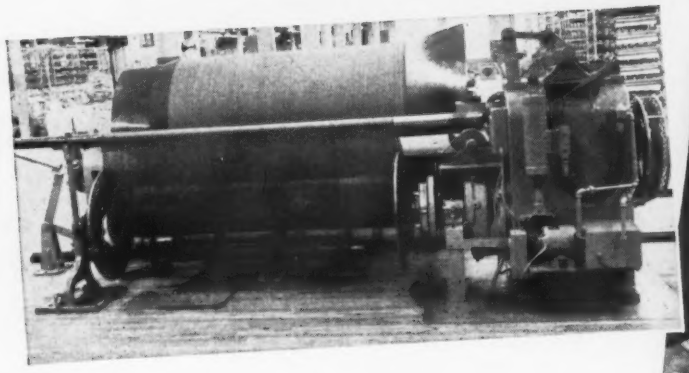
SKF INDUSTRIES, INC., PHILA. 32, PA.

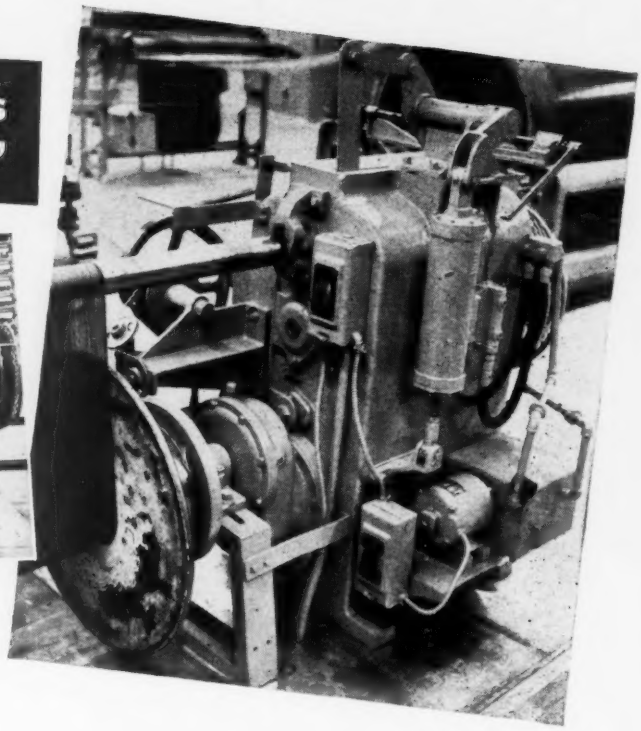


SKF
Puts the
RIGHT BEARING
in the
RIGHT PLACE

Rely on Reeves

The Textile Industry's Proved "Cost Cutter"





This high speed beamer, manufactured by Bachmann-Uxbridge Worsted Corp., Uxbridge, Mass., is equipped with hydraulically controlled REEVES Variable Speed Transmission, which automatically maintains uniform tension and constant winding speed to assure uniform yarn texture.

In thousands of textile installations—on beamers, warpers, slashers, dry cans, mangles, dryers, nappers, finishing ranges and many other machines—REEVES Variable Speed Drives have proved their ability to speed production, improve quality and *cut manufacturing cost.*

REEVES Speed Control provides *infinite* speed adjustability . . . compensates *instantly* and *accurately* for every change in texture, weight, temperature, moisture content, operator skill and other variables . . . delivers *exactly* the speed needed to perform each operation most efficiently. Time-consuming stops and slowdowns are eliminated. Hourly production is increased. Waste of material and manpower are reduced.

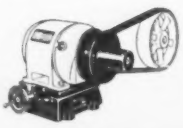
No matter what your speed control problems in preparation, fabrication, spinning, twisting or finishing of yarn and cloth, the right answers can be found in one of the three basic REEVES units, available in the widest range of designs, sizes, capacities and speed ratios—with manual, push-button or completely automatic controls.

A REEVES engineer widely experienced in textile mill operations will be glad to recommend the units which best meet your particular needs. Write today for complete information on the entire REEVES line—ask for the 114-page catalog W3-450A.

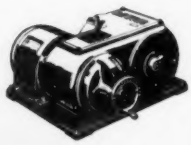
REEVES PULLEY COMPANY • COLUMBUS, INDIANA

THE THREE BASIC REEVES SPEED CONTROL UNITS

VARIABLE SPEED TRANSMISSION for providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.



VARI-SPEED MOTOR PULLEY provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 15 hp.

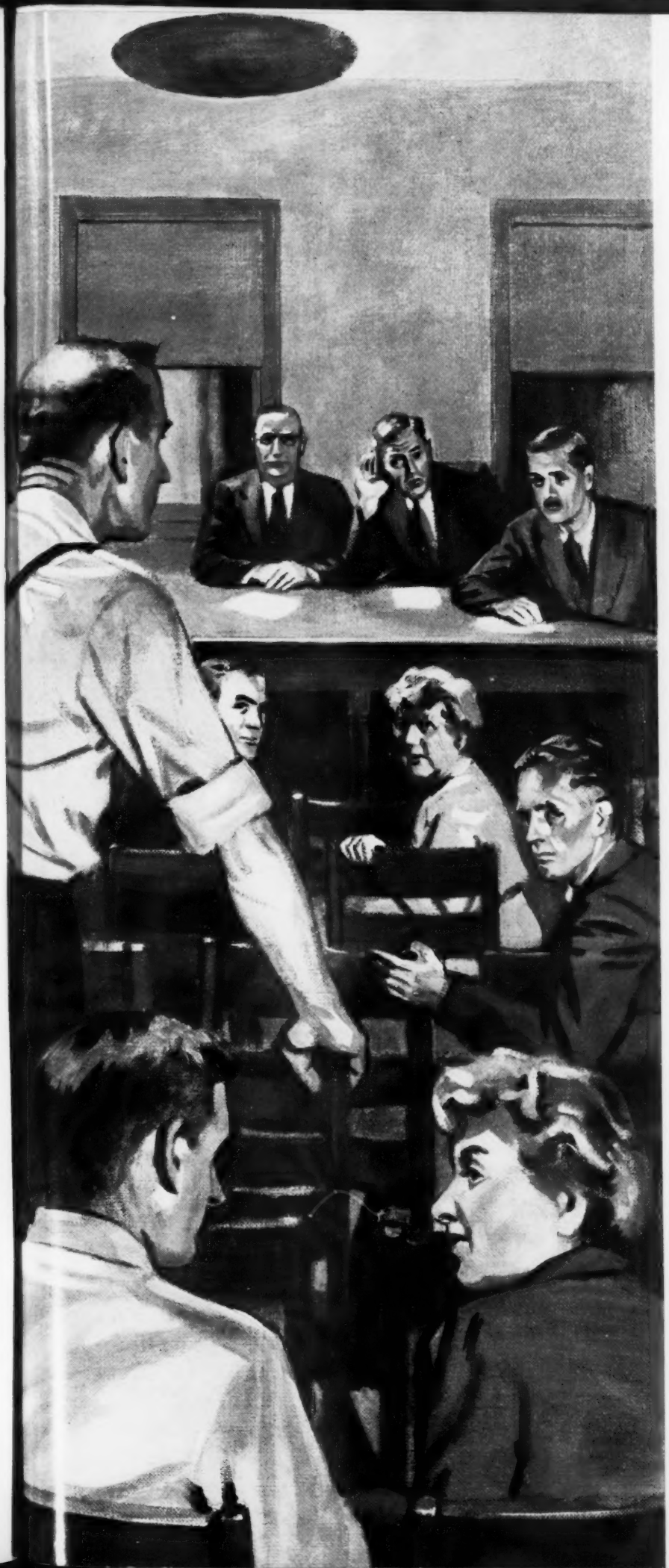


MOTODRIVE combines motor, speed varying mechanism and reduction gears in single unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 20 hp.

ACCURATE • VARIABLE

Reeves Speed Control

GIVES THE RIGHT SPEED FOR EVERY JOB!



The $500 Surplus that Washed Away

We sat listening to the town board members at their quarterly meeting.

Things were pretty dull until the Clerk announced there was a $500 surplus in the town treasury. Someone suggested the purchase of bleachers for the baseball field.

Jim Harkins objected.

"That's our flood control fund," he said. "The little stone dam hasn't been repaired for years."

The board members laughed at Jim. They said the creek hadn't overflowed in 15 years. Besides the baseball field was more important, and the money could be spent in building new bleachers.

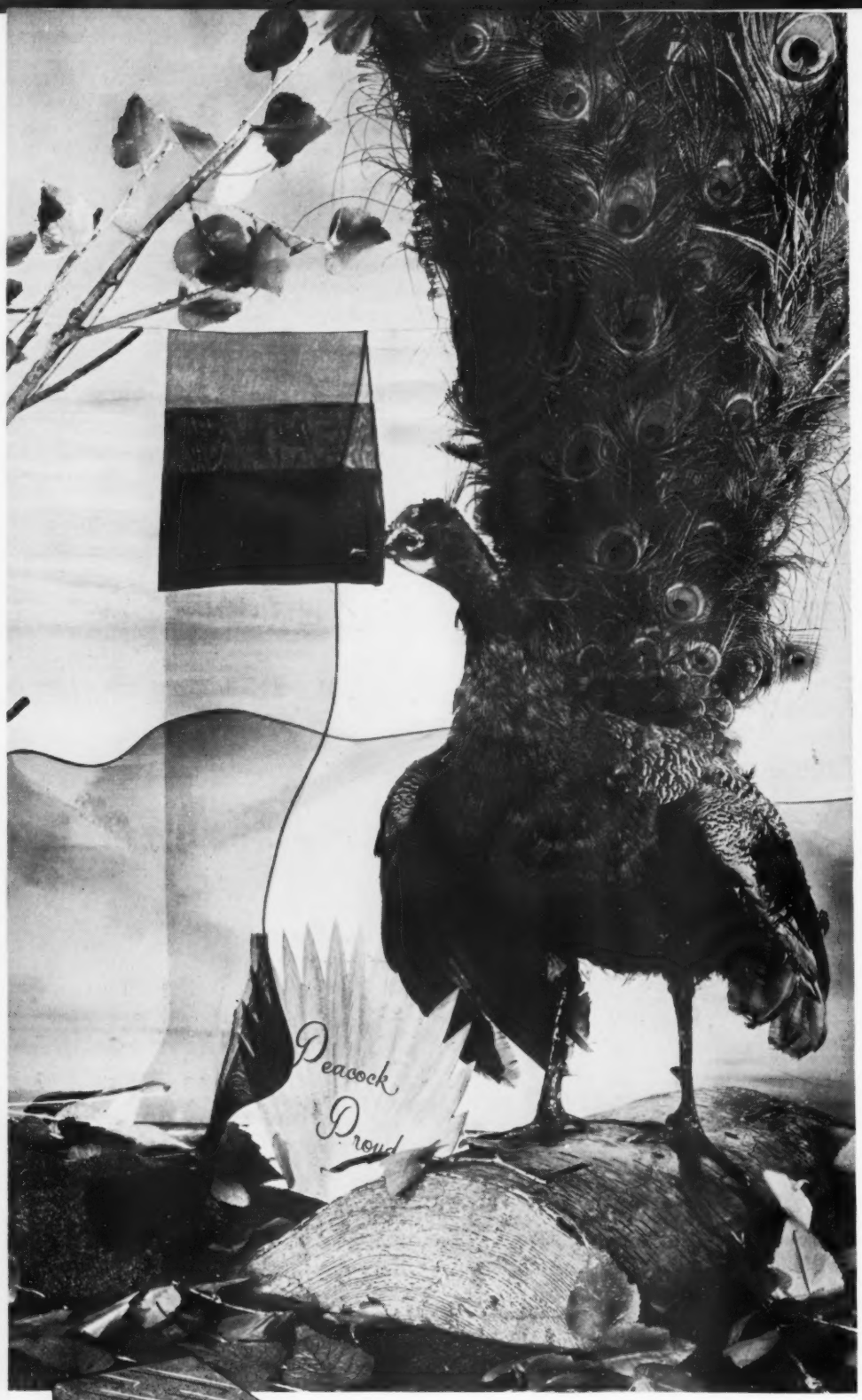
A month later, a flash flood hit our town. The little dam crumbled under the weight of the water in the swollen creek. All the homes and streets in the hollow were flooded. The baseball field and the new bleachers were washed away.

The town board is agreed that never again will money needed for essential purposes be spent so casually.

Take a look at your last Financial Statement. Do you really have the money that you charged off for Depreciation in the past years? Is it part of your "current" assets . . . or is it earmarked as a separate fund under "fixed" assets?

Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
READING, PENNA.

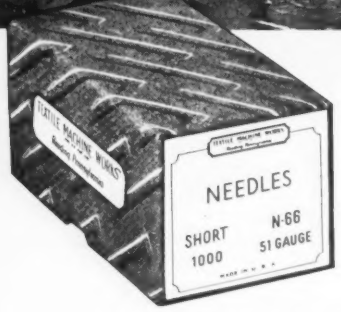


For extra elasticity

When you check a Textile Spring-Beard Needle for its elasticity, you'll discover it has a high degree of resiliency to withstand pulling of yarn and constant pressing motions. Made of a special steel formula, possessing a superior temper and smooth finish, a Textile Spring-Beard Needle measures up to the most exacting tests.

From the rolling mills to package, each Textile Spring-Beard Needle undergoes rigid controls — automatic and electronic — to assure top quality in performance. All this adds up to improved knitting results for you.

TEXTILE MACHINE WORKS
Reading, Penna.

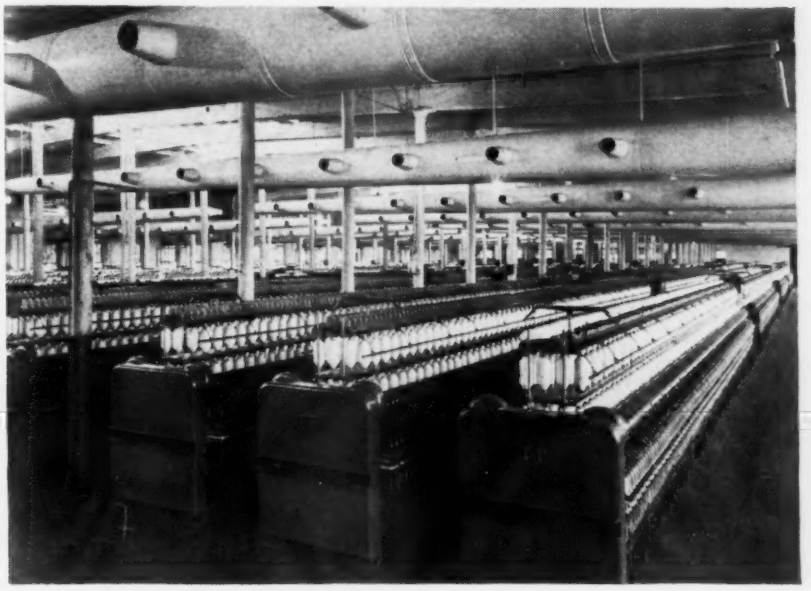


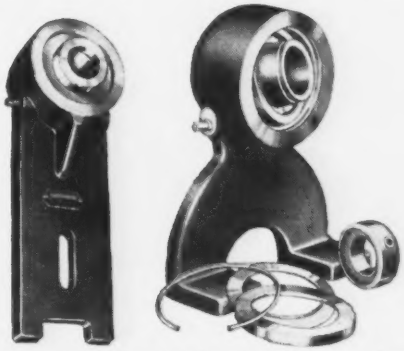
Textile
SPRING-BEARD NEEDLES
For Full Fashioned and Warp Knitting

KEEP PRODUCTION UP AND DOWN-TIME DOWN

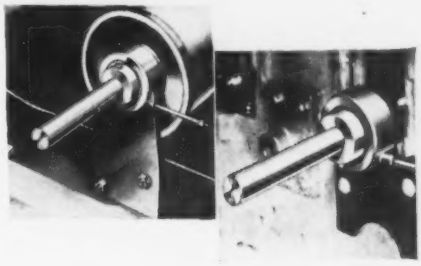
with Fafnir Ball Bearing replacement units

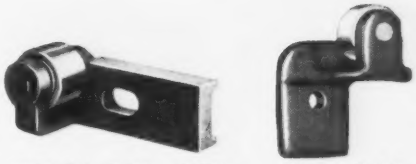
for these standard makes of spinning frames and twisters:
FALES & JENKES, MASON, HOWARD & BULLOUGH,
SACO-LOWELL, WHITIN and PRINCE-SMITH





CYLINDER SHAFT UNITS . . . *The fact that the pull in the cylinder of the spinning or twister frame is all on one side has always been a major problem when plain bearings were used. It is no problem at all when Fafnir Ball Bearing Units are substituted. They operate efficiently in any position, without wear or vibration. That increases the life of tapes, cylinders and the whole machine.*





PITMAN ROLL UNITS . . . *These Fafnir Units are factory-packed with all the lubricant they will ever need. No oiling, no accumulation of fly, no binding of the roll, no scuffing of the cam contour. Cams last longer, bobbin build is more uniform, dragging is eliminated, builder motion is more sensitive and ring rail performance is positive.*

Just look at the record . . . of these Fafnir Ball Bearing Units in America's leading textile plants. Repair time becomes production time. Lubricant and lubrication time is saved. These units need lubrication only three times a year. No oilers and no spoilage from oil. Less wear on frames, longer life for belts and more uniform speeds. Lifting the friction boosts speeds and levels them off. A ball bearing equipped frame is ready to doff fully five minutes sooner.

And the Wide Inner Ring construction of Fafnir Ball Bearing Replacement Units makes installation easy and lasting. They assemble complete onto standard shafts and lock in position with a twist of the wrist. Fafnir Units with this Wide Inner Ring feature for all standard textile machinery . . . opening, cleaning, picking, carding, drawing, roving, spinning and twisting, winding, warping, slashing, weaving and finishing equipment. The Fafnir Bearing Company, New Britain, Conn.

MOST COMPLETE LINE IN AMERICA

FAFNIR
BALL BEARINGS

IT'S TAPER-LOCK! IT'S REVOLUTIONARY!

The simplest, surest mechanism ever devised for holding wheels to shafts. Another Dodge "first" —and the biggest development in this field in years!

The TAPER-LOCK Sheave breaks all speed records in mounting. Slip it on, line it up and tighten while sighting! Saves time—saves money.

Easy on, easy off! Disengages with less effort; holds fast to the shaft with firmness equivalent to a shrunk-on fit.

No flange. No collar. No protruding parts. Close mountings are possible. Bushing extends entire length of hub. TAPER-LOCK runs *true*.

A complete unit—in a complete range of sizes in Dual Duty (A and B); B, C, and D grooves. Write us for detailed bulletin, A175C, on this new and different taper bore sheave.

DODGE MANUFACTURING CORPORATION
Mishawaka, Indiana

DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER

He is your local Dodge Distributor—factory trained—qualified to suggest ways to improve your machine performance, increase production. Look for his name under "Power Transmission Equipment" in your classified phone book.

TAPER-LOCK: Trade Mark Registered U. S. Pat. Off.

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NAME PLATES

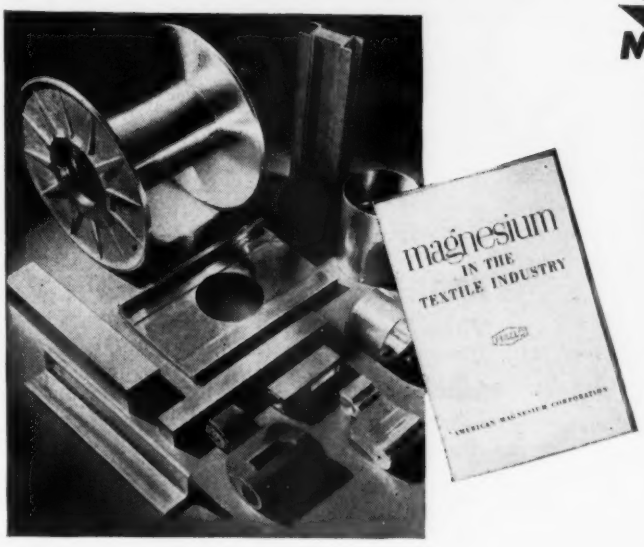
FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

STOP

HARD TO STOP—a husky 200-pound fullback driving hard through the line. It takes power to halt weight in motion.

START

QUICK GET AWAY—a shifty 150-pound quarterback on a wide end run. Lighter weight means a faster start.



MORAL: In textile machinery, as on the gridiron, inertia must be overcome everytime something starts or stops. The heavier reciprocating parts are, the more power it takes to keep them operating. Why not lighten up with American Magnesium? It's 35% lighter than aluminum, 75% lighter than steel. Magnesium parts save power, cut vibration, reduce wear on machinery. Ask your machinery builder to specify this light, strong metal wherever possible for better performance and less down time.

ALUMINUM COMPANY OF AMERICA, sales agent for American Magnesium products, 1705 Gulf Building, Pittsburgh 19, Pa. Sales offices in principal cities.

FREE! Send for your copy of the valuable booklet, "Magnesium in the Textile Industry". It is full of information on magnesium's properties and how they can be utilized to improve textile machinery.

MAGNESIUM MAZLO PRODUCTS

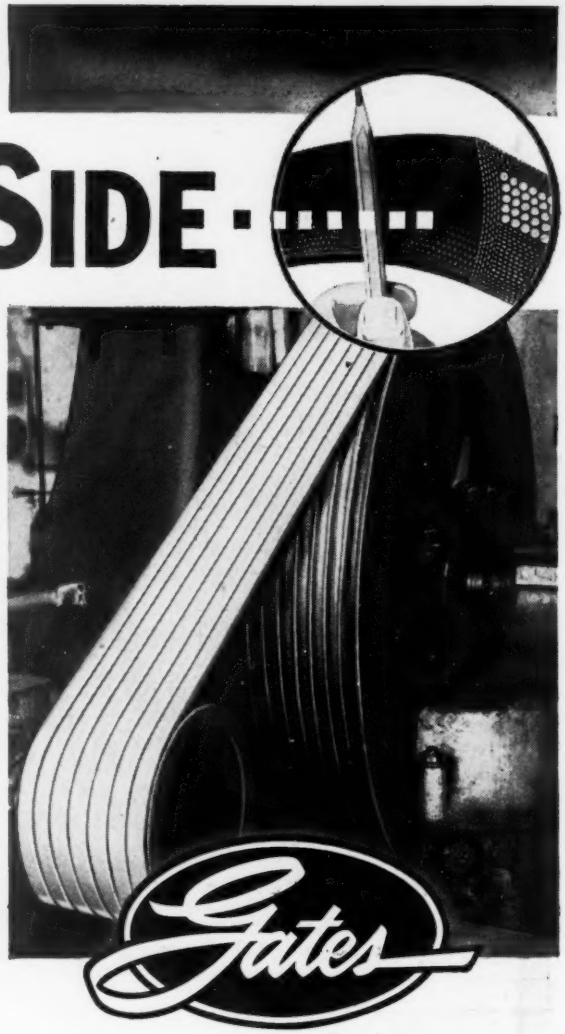
AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

Here is **WHY** *the*

CONCAVE SIDE-

(U.S. PATENT NO. 1813698)



The Mark of SPECIALIZED Research

SAVES You Many DOLLARS In V-BELT Costs!

Every time a V-Belt bends around its pulley, the *top* of the belt is under *tension* and grows *narrower*. The *body* of the belt is *compressed*—causing the *sides* to *bulge out!*

FIG. 1

Because of these stresses, any V-Belt built with straight sides is forced to assume, in the sheave groove, the shape shown in figure 1, on the left.

This forced bulging of a *straight-sided* V-Belt against the sheave groove walls naturally produces excessive wear along the *middle* of the belt's sides—as indicated by the arrows. Also, because the full side of the belt does not *uniformly* grip the pulley, there is a definite loss in drive efficiency.

Now see the difference when you bend the V-Belt that is built with the precisely engineered Concave Side (U. S. Patent No. 1813698)—the Gates Vulco Rope.

FIG. 2

As the Gates Vulco Rope bends, its Concave Side becomes straight (Figure 2). It exactly fits the sheave groove—and this gives you two very definite savings:—

(1) No out-bulge of the sides means uniform side-wall wear—*longer life!*

(2) *Full side-width* grip on the pulley carries heavier loads and sudden load increases without slippage—saving your belts and saving power too!

The Concave Side is MORE IMPORTANT NOW Than Ever Before!

Because the *sides* of a V-Belt are what actually *drive* the pulley, it is clear that any increased load on the belt means a heavier load that must be transmitted to the pulley *directly* through the belt's sidewalls.

Now that Gates SPECIALIZED Research has made available to you *SUPER* Vulco Ropes—carrying fully 40% higher horsepower ratings—the life-prolonging Concave Side naturally delivers greater savings today than ever before.

4810

GATES VULCO ROPE DRIVES
Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

THE GATES RUBBER COMPANY
DENVER, U.S.A.
"The World's Largest Makers of V-Belts"

YOU CAN BE SURE...IF IT'S

Westinghouse

THE NAME YOU KNOW IN Lamps

You naturally want the best fluorescent lamps available to keep your lighting system operating at peak efficiency. That's why more and more plants are using Westinghouse fluorescent lamps. Westinghouse lamps are a quality product, subjected to 486 tests and inspections from raw material to finished product.

When you use Westinghouse fluorescent lamps, you can be sure of uniformity, long life and high efficiency—the three important advantages you need to get the most out of your lighting system. So the next time you need lamps, specify Westinghouse.

Send for free booklet A-4759 "A Practical Guide to Westinghouse Fluorescent Lamps and Equipment."

LAMP DIVISION, WESTINGHOUSE ELECTRIC CORP., BLOOMFIELD, N. J.

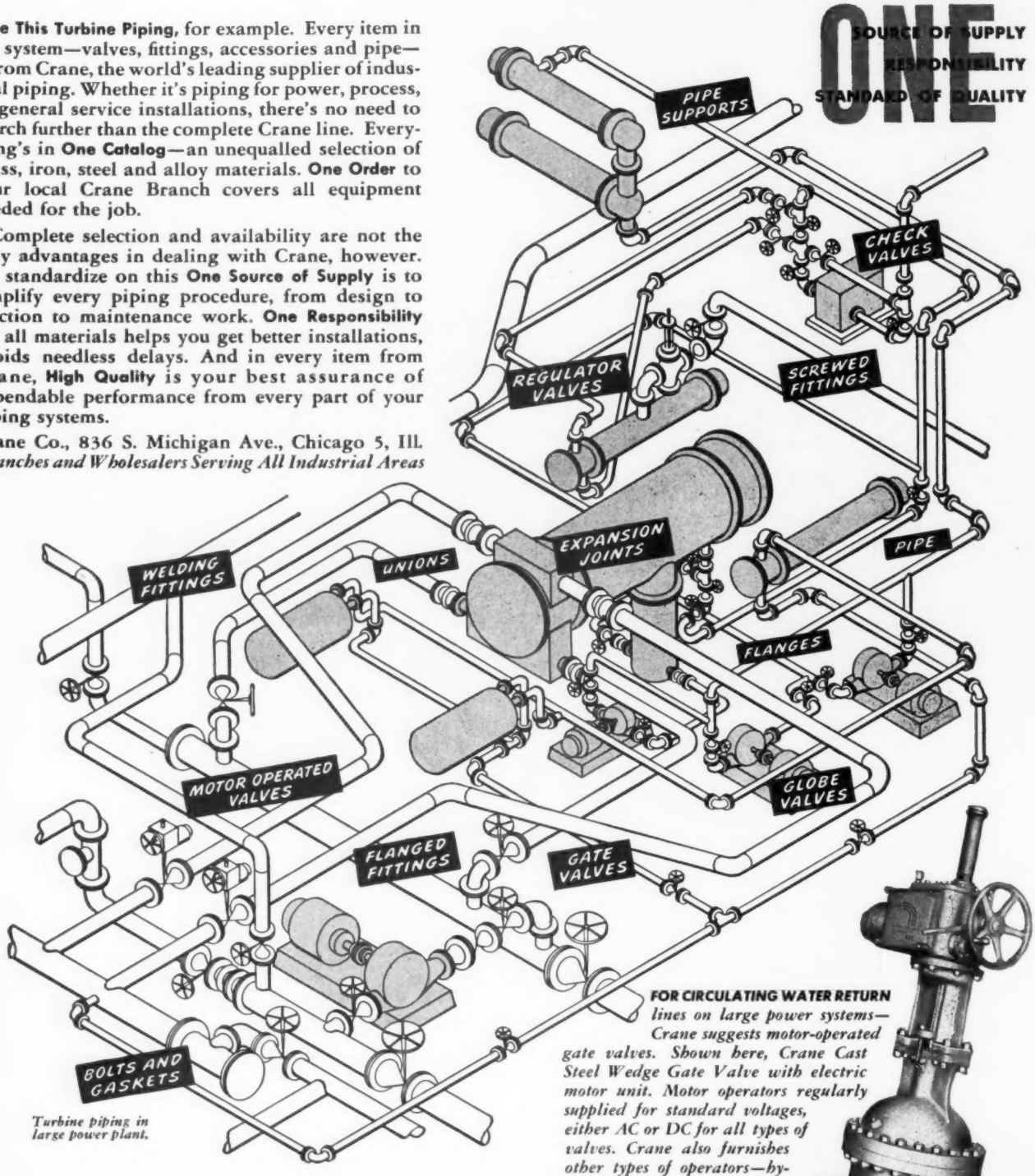
Everything in power piping ...on One Order to Crane

Take This Turbine Piping, for example. Every item in the system—valves, fittings, accessories and pipe—is from Crane, the world's leading supplier of industrial piping. Whether it's piping for power, process, or general service installations, there's no need to search further than the complete Crane line. Everything's in **One Catalog**—an unequalled selection of brass, iron, steel and alloy materials. **One Order** to your local Crane Branch covers all equipment needed for the job.

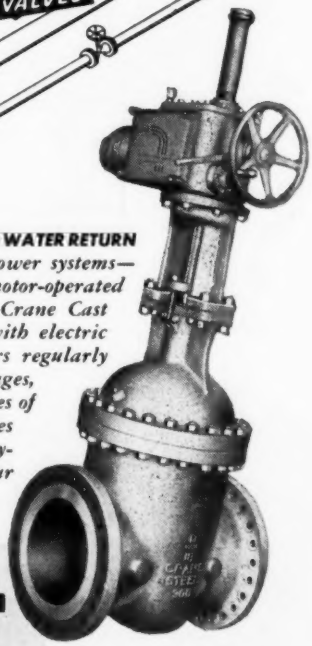
Complete selection and availability are not the only advantages in dealing with Crane, however. To standardize on this **One Source of Supply** is to simplify every piping procedure, from design to erection to maintenance work. **One Responsibility** for all materials helps you get better installations, avoids needless delays. And in every item from Crane, **High Quality** is your best assurance of dependable performance from every part of your piping systems.

Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

ONE
SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY



Turbine piping in large power plant.



FOR CIRCULATING WATER RETURN *lines on large power systems—Crane suggests motor-operated gate valves. Shown here, Crane Cast Steel Wedge Gate Valve with electric motor unit. Motor operators regularly supplied for standard voltages, either AC or DC for all types of valves. Crane also furnishes other types of operators—hydraulic, air, etc. See your Crane Catalog.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

The mill that makes textiles without rejects has never been built . . . but plenty of mills today are making yarn and cloth with negligible losses due to soilage from airborne dust and dirt. Raytheon has proved in leading textile mills of all types how easily dust, dirt, soot and grime can be removed from the air electronically by Raytheon Precipitators. And there's every reason to be sure that it will pay — *and pay handsomely* — in your mill. Why not talk with a Raytheon air cleaning specialist. Just call the nearest Raytheon office or write for complete information.

RAYTHEON PRECIPITATOR
ELECTRONIC AIR CLEANER

RAYTHEON

RAYTHEON MANUFACTURING COMPANY
WALTHAM 54, MASSACHUSETTS • WALTHAM 5-5860
Industrial and Commercial Electronic Equipment, Broadcast Equipment, Tubes and Accessories

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The specially designed face block on Dayton Thorobred Loop Pickers is built to withstand continuous shuttle poundings on today's fastest looms . . . to provide better, more efficient service, at the lowest possible cost.

Wear of lay-in strap is eliminated with Dayton Pickers. Special, molded-in-one-piece construction includes a flared bottom for easy application. Too, a specially patented symmetrical loop construction anchors the picker onto the stick and holds it in the correct shuttle contact position indefinitely. If you aren't using Dayton Pickers, it will pay you to get complete information. Write today to The Dayton Rubber Company, *Textile Division, Woodside Building, Greenville, South Carolina.*

REASONS WHY YOU SHOULD STANDARDIZE ON DAYTON PICKERS

- Loom can be boxed the same at all times.
- Keep their shape.
- Easy to install—fit the stick.
- Hanging fillings eliminated.
- Jerked-in fillings are reduced to a minimum.
- Cut picker costs 50%.
- Built to stand pounding of high-speed loom.
- "Stay put" on stick.
- All pickers uniform in size.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

"Give us the tools..."

TO SURVIVE

America Must Have Better Tools

IN THE past twenty years the United States has failed to provide its workers with enough new tools and equipment.

To most Americans this statement will come as a shock—or will be doubted. We are quite complacent about our industrial equipment, for easily understood reasons.

Throughout the '30s we heard continuously the propaganda line that the United States had become a "mature economy." The job of equipping America with industrial plants and tools was said to be largely done.

Now, knowing that industry is spending billions to expand and rebuild its plants, many people assume that the result must be a first-class industrial system.

A further powerful inducement to complacency is the vastly *worse* industrial condition of most of the rest of the world. When Americans look abroad in almost any direction they see shattered plants and equipment. A natural reaction is that we are sitting pretty.

That is a dangerous reaction. Between depression and war, we have failed to build the tools and equipment we need. This condition is dangerous for three reasons:

1. *From bitter experience we know that national security depends first and foremost on the capacity and readiness of our industrial equipment.*

All of our plans for stabilizing prosperity assume a world at peace. The greatest menace to peace would be an unarmed America, unable or unwilling to keep herself strong and ready for defense—strong in spirit, in resources and in the all-important industrial plant and equipment.

2. *Whether Americans live well—or badly—depends directly on the kind and quality of tools used by American workmen.*

This is true for all workers, and for every worker—from a garage mechanic and his wrenches to a steel mill gang and its rolling equipment. In a monumental study of "America's Needs and Resources" the Twentieth Century Fund found this fact: The improvement in the real income of the American people has more consistently followed the amount of power used in industry than anything else. What the workman worked *with* determined, more than any other factor, the size of his pay envelope, and what it would buy.

3. *Our success in stabilizing prosperity will depend largely on what we do about building new tools and equipment.*

About 30% of our industrial workers are employed in producing tools and equipment. Steady employment for them is essential to our over-all prosperity.

How far have we fallen behind in providing new plants and equipment?

Estimates vary. Here is one rough estimate: If we had built new industrial facilities during 1930-48 at the rate we did in the prosperous '20s, we would have spent at least $100 billion more than actually we did.

To get a better and more complete measure of this deficit, McGraw-Hill is undertaking a survey of American Business' Needs for New Plant and Equipment.

Businessmen all over the nation are being asked to answer questions like this: How much

money would you need to put your plant in first class condition? How much are you planning to spend for new plant and equipment? Where do you expect to raise the money? The results will be reported later in this editorial series. Already the survey shows we have fallen many billions of dollars behind.

Some shortcomings are apparent to everyone. They are revealed in a lot of rickety transportation facilities and in rundown buildings.

Many other deficiencies do not come into general view. They are, for example, the antiquated machines in our plants. Of the privately-owned machine tools in use in 1945 – when the last census of metalworking equipment was made by AMERICAN MACHINIST – 54% were more than 10 years old. Their average age is higher today.

It is true that in recent years we have hit new highs in total national production. But we have done so by putting far more people to work than ever worked before . . . and by driving equipment to the limit of its waning endurance, sometimes beyond. It has not been done *primarily* in what is by all odds the best way to increase production—to use more and better and more modern tools and equipment.

Haven't we overcome much of this twenty-year deficit by rushing to build new plants since the end of the war?

No. For two clear-cut reasons:

1. The accumulated shortage is tremendous. The total of about $40 billion, which has been spent for industrial plant and equipment since VJ-Day, has not wiped it out.

2. Some key industries have had difficulty in getting the facilities they need. Take steel, for example – the industry that turns out our most basic industrial material. Its needs for new equipment are measured in billions of dollars. To pay for that equipment, it should have *risk capital* – money which people are willing to invest with a risk of losing for the sake of gain. For steel is an up-and-down industry. Earnings on its common stocks inevitably share both ways in those ups-and-downs.

Since the war, steel, in common with most of industry, has been unable to market new common stock successfully. Its outstanding stock is now selling for only about one-half the current net worth of the industry's present assets. With investors willing to pay only 50 cents on the dollar for its facilities, the industry can not readily sell stock to pay for *new* plant and equipment – at higher prices even than the old.

Why can't steel – and other industries – attract people who are willing to risk their money retooling America?

The full answer to that serious question must be left to future editorials in this series, for it involves many things . . . tax reform . . . mobilization of small savings . . . a new respect for corporate profits.

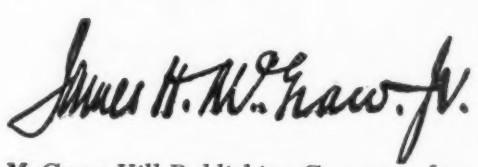
This first editorial seeks simply to emphasize two fundamentals:

First, our standard of living improves with the *quality* of our industrial equipment.

Second, American industry and American workmen badly need billions of dollars worth of better equipment *now*.

The American people must understand that *not only our continued prosperity but also our security as a nation depends upon giving American industry more and better equipment.*

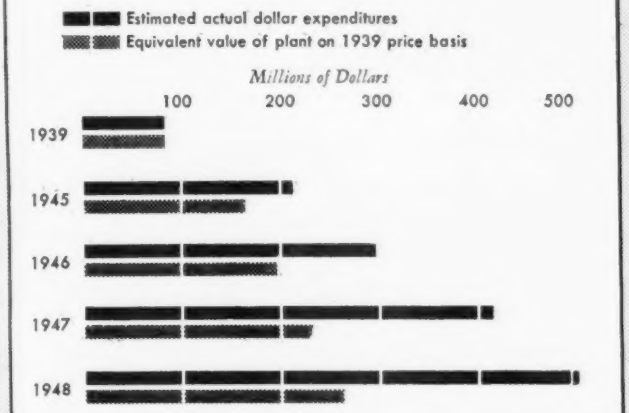
"Give us the tools." This was Winston Churchill's cry for help to win the war. Only if we give American industry new and better tools will we have a chance to win abiding prosperity at home and good order abroad.



President, McGraw-Hill Publishing Company, Inc.

★ THIS EDITORIAL, and a series to follow, will be devoted to a single problem – how to provide American industry with the equipment needed to improve that envy of the world, the American standard of living. No more important problem confronts us today. Upon our wisdom in handling it depends not only the degree of our prosperity, but also our security as a nation.

Total Textile Industry Expenditures



Index Numbers on Textile Machinery and Industrial Building Cost
(1926 = 100)

	Textile Machinery	Mill Buildings
1939	83.7	99
1945	101.8	133
1946	122.1	155
1947	146.6	182
1948	152.9	196

(Compiled by Marshall & Stevens, Chicago, Ill.)

Distribution by Type of Mill of Improvement Commitments Made During 1946, 1947, 1948

1948 May Prove Biggest Year For CAPITAL ACTIVITY

HIGHLIGHTS: *Industry programs this year top $500,000,000 against 1947's $414,000,000—Modernization has become essential to mills—Rise in year is 20% in dollars, 14% in units—Probability suggests a lessened outlay next year.*

By WILLIAM B. DALL
Managing Editor, TEXTILE WORLD

Washington Finds Gain in Capital Investment

"Capital Expansion Boom Gets Second Wind" is the heading of a report from the McGraw-Hill Washington Bureau, as this issue goes to press. "Capital expansion seems to be booming again," says the report. Quoted from a joint report by the U. S. Dept. of Commerce and the Securities & Exchange Commission is this statement: "By the end of 1948, business will have spent $18,600,000,000 on capital expansion, $2,400,000,000 more than last year." This capital outlay gain as reported by these government agents for all business means a 15% gain in 1948 over 1947. Textile World's figure for the textile industry shows a 20% gain.

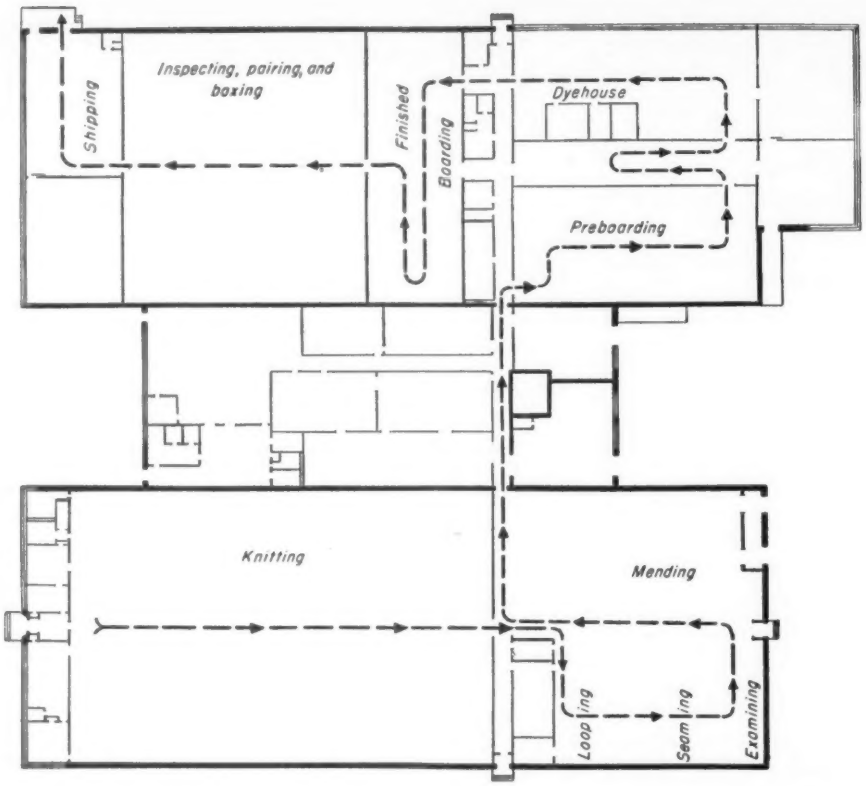
TEXTILE WORLD's annual estimate indicates that money value of plant and equipment involved in new projects and installations this year is running 20% ahead of 1947. However, as the year draws to a close, there is evidence that, although installations may increase next year, the total figure will be lower due to announcement of fewer projects for the years beyond. New commitments for equipment are not being placed at as high a rate as a year ago, although they are still running above the prewar normal.

Figures presented in this statistical series are based uniformly on the sums reported during the year in TEXTILE WORLD's "News About Mills" department. The figures, consequently, in-

(Continued on page 226)

o Annual MILL ENGINEERING CHECK-UP Section

ONE-STORY MILL *Trend*

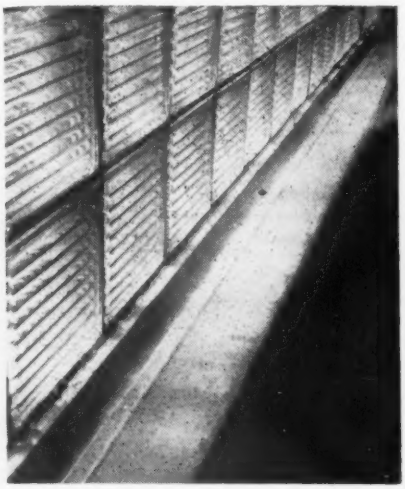


STRAIGHT-LINE ROUTING, as indicated in the floor plan of Humboldt Full-Fashioned Hosiery Mills, Humboldt, Tenn., is a distinct advantage derived from one-story construction.

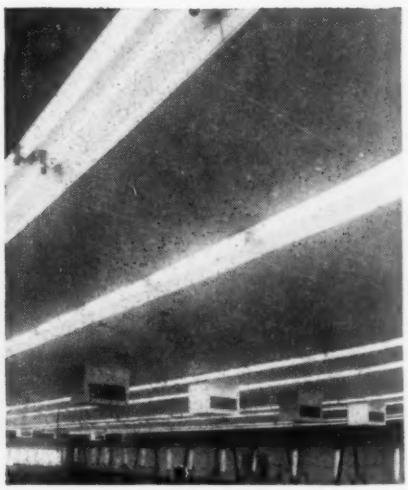
CURRENT TRENDS . . .

As carried out in some recent projects of Lockwood Greene Engineers, Inc.

ATTRACTIVE EXTERIORS and landscaping, customary in modern textile-mill construction, are known to improve employee morale and quality of work.



A GLASS-BLOCK and/or Thermopane window strip is increasingly popular in windowless construction. In this example, a gutter is used to drain away condensation.



ACOUSTICAL CEILINGS decrease noise and improve working conditions. Here perforated 4x8-ft. asbestos board is backed with 2 in. of muslin-covered glass wool.

Backed by Sound Reasons

By DAVID ELWELL
Vice President,
Lockwood Greene Engineers, Inc.

HIGHLIGHTS: Long-span construction in one-story buildings prevents difficulties caused by growing machine sizes — In-line routing speeds production — Attractive exteriors and landscaping now customary—Trend toward better employee facilities continues.

RECENT TEXTILE-MILL construction accentuates the trend which started some years back toward one-story plants. Flexibility of machinery installation of both present and future types, continuous production lines and efficient flow of stock in process, economical air-conditioning installation, floor rigidity, and ease of enlargement are the major advantages of a single-story mill over the multi-story type.

With large one-story areas, efficient production lines and in-line routing of material in process can be worked out. Straight-line production is seldom possible in multi-story plants requiring elevators or conveyors to handle stock in process between floors.

The one-story type of plant lends itself best to long-span construction, with a minimum of interior columns. To truss multi-story buildings for long-span construction would involve expensive trusses and increase considerably the floor-to-floor height of the building.

Long-span construction is important because of the increasing size of some classes of textile machinery, such as looms and full-fashioned hosiery-knitting machines. With the rapid development of new types of textile machinery, it is almost impossible to predict in advance what column spacing will fit the machinery of the future. The long-span construction provides the best possible insurance against future difficulties in proper installation of production equipment.

This type of building, with the floor on the ground, gives the rigidity and freedom from vibration so important for best production of full-fashioned hosiery ,and is very desirable in other types of textile manufacture.

With one-story buildings, the air-conditioning equipment can be placed in penthouses above the main roof level. This arrangement brings the equipment close to the space to be served, resulting in a minimum cost for the air-conditioning installation.

One-story plants also offer an easy means of enlargement by providing a temporary end wall to allow for the ready addition of more space.

COST. On a cost-per-square-foot basis, one-story plants will generally run somewhat more than multi-story buildings and, of course, require more land for a given floor area. However, elevators and stairs for multi-story plants are items of expense. Aisles and trucking space in front of the elevators at all floors must be maintained, and space is taken up for vertical transportation not involved in the one-story plant.

The long-span type of mill indicates skeleton-steel-frame construction for the project, timber being unsuitable in such a case.

The tendency to the use of face brick rather than common brick, at least for the street frontages of new plants is becoming very prevalent, as well as a modest but attractive architectural treatment of the exterior. Effective landscaping of the grounds is now customarily done. High-class provisions for employee comfort, such as well-appointed rest rooms for women, lounges for men, and a plant cafeteria are frequently provided.

In some recently built full-fashioned hosiery mills, acoustic ceilings for noise reduction have been used. This points up an improvement which may find its way into other classes of textile plants. A weave room is generally the No. 1 noise maker in a cotton mill, and any steps toward noise reduction there would be welcomed by the help.

Attractive appearance of grounds and plant, high-class facilities for employee comfort, noise reduction, etc., all work toward morale building, pride in the plant and the product, and contribute to the well being of the company and its personnel.

Air conditioning with accurately maintained temperature and humidity in the various departments by zone control is standard equipment in modern cotton, rayon, and full-fashioned-hosiery mills. It has also been installed in some of the few woolen mills built since the war. In addition to the benefit of employee comfort, the outstanding technical benefit of air conditioning is the improved processing of the fiber that results.

BUILDING DESIGN. Air conditioning imposes some conditions in the design of any building which must be met to make the installation fully successful. Opening windows, a habitual practice for ventilation in old-style mills, adversely effects an air-conditioning system. Sash without ventilators should be used. Better yet, as considerable solar heat enters through ordinary windows, a strip of glass block around the walls eliminates the possibility of opening windows and reduces the heat gain from outside as compared with standard sash.

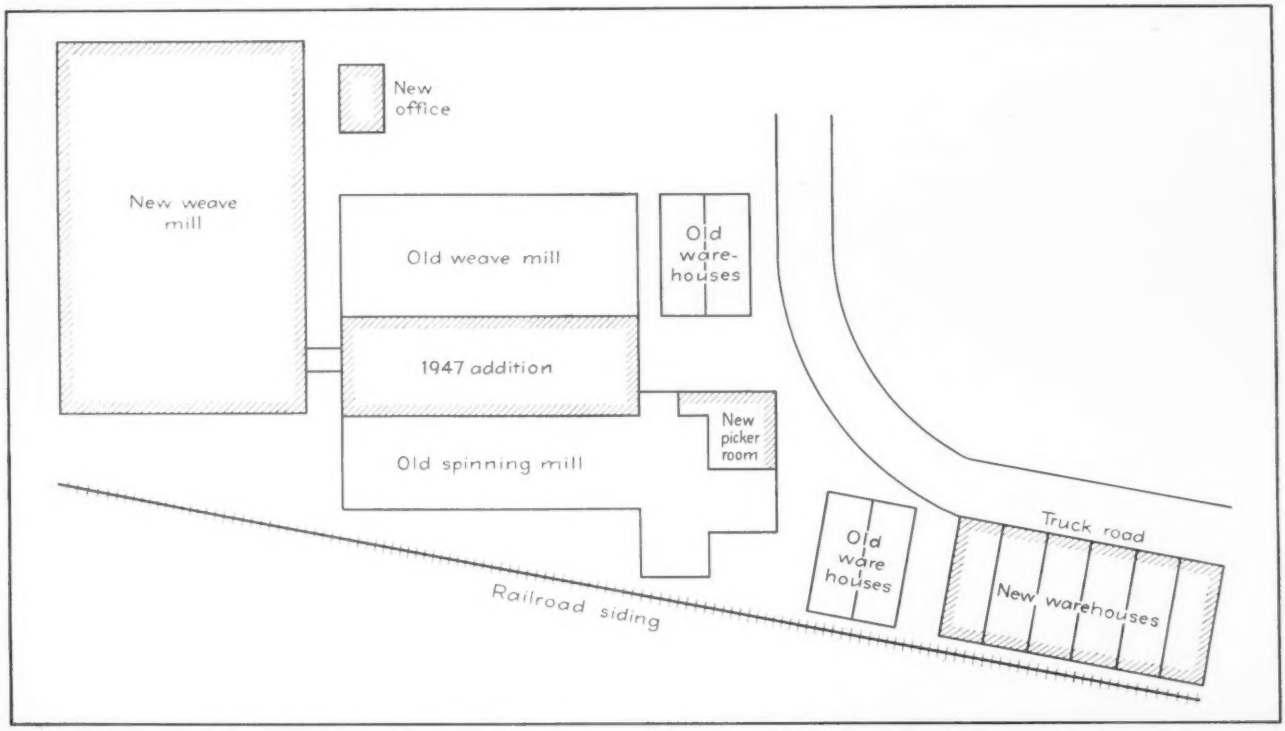
Plain walls with no sash or glass are sometimes used, but the glass block gives some light admission and improves the appearance of the building achitecturally. If direct vision from inside to outside is required, windows with fixed sash may be used in air-conditioned plants. In northern latitudes they should be double glazed to reduce heat transfer and condensation inside.

Reducing heat transfer through the roof results in lower investment and operating cost for the air-conditioning system than otherwise and is accomplished by a layer of heat-insulating material between structural roof and the built-up top roofing. Heat-insulating materials have also been used on the walls of recent air-conditioned mills for the same purpose as roof insulation.

Lighting in modern textile mills has gone quite thoroughly to fluorescent, generally with long runs of troffer fixtures and intensities of around 50 ft. candles in the finer processes. The characteristics of fluorescent light: wider distribution from a bigger light source, more light units per unit of current used, and less waste heat from the light source are all advantageous features in a textile plant.

For the finished working floor in modern mills, maple is preferred for resiliency and durability. With a concrete structural floor on ground, edge-grain maple strip flooring cemented into a depressed area in the concrete to bring it flush on top, in the working aisles and elsewhere, if wanted, meets the requirement.

THE PROBLEM:



THE PROBLEM at the Pineville plant of Cone Mills was to erect an addition between the old weave mill and old spinning mill and bring to the same level floors that were 4 ft. apart in elevation. Also, a new weaving mill had to be built on ground 15 ft. below the desired floor level, and warehouses had to be completed in time to house deliveries of new machinery and the 1948 cotton shipments.

ENGINEERING INGENUITY
Speeds Pineville Modernization

HIGHLIGHTS: Remodeling of old mills carried out without production interruption—Mills floors rebuilt to new level—New weaving mill built on rolled-earth fill—Diagonal bracing transmits loom vibration to concrete walls.

By
JOHN D. WATSON
Watson & Hart

THIS IS A SITUATION familiar to every mill man: a company buys an outmoded plant which it wants to remodel completely without losing a day's production. How to handle the job successfully is the story of Cone Mills' Pineville Plant.

Two years ago, Cone Mills purchased an old mill in Pineville, N. C. One brick building, approximately 100 x 250 ft., housed carding and spinning equipment; another housed slashing and weaving. Four warehouses and minor out buildings made up the properties. Almost no modernization had been done since 1900, and the plant had little more to offer to the efficient manufacture of drills and jeans than a good site and a group of employees who knew how to make medium-weight cotton fabrics. Obviously, the project would not be expedient in a period of rising costs and steady market demand if modernization resulted in a closedown or serious curtailment.

Management put the plant layout on paper and quickly saw its first task: Fill in the 86-ft. space between the old spinning and weaving mills with a new building for long-range expansion. Such an addition would also provide temporary room for shifting machinery while other improvements were continuing. But the old spinning mill had a floor elevation 4 ft. lower than the old weave mill. In building a new building between these two old buildings, a major engineering problem was to bring all three floor levels to the same elevation. It was decided to raise the old spinning mill floor 2 ft. and to lower the old weave mill floor the same amount. The floor elevation of the new building was then established to match this new level.

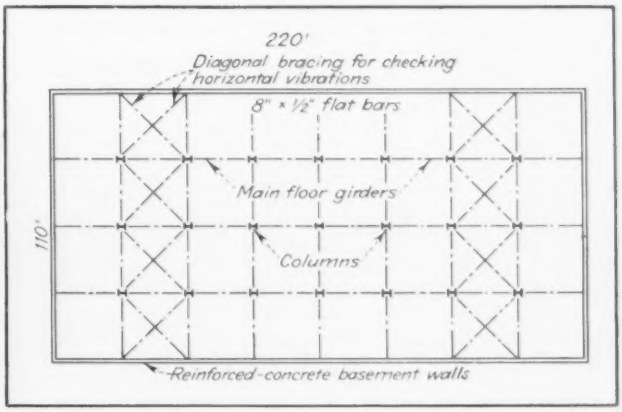
When the new building between

THE SOLUTION:

1 THE SPINNING FLOOR was raised by removing the old floor and brick piers and rolling an earth fill within the shell. Windows were later bricked up.

2 A TRAVELING ELECTRIC PLATFORM HOIST (arrow) speeded construction of 17-in., 22-ft.-high fire walls in warehouses by raising bricks and mortar to scaffolds.

3 AN EARTH FILL 15 ft. deep was laid in 6-in. layers, rolled, and compacted as a foundation for the new weave room.



4 HORIZONTAL VIBRATIONS caused by looms will be transmitted to walls by diagonal bracing in two bays.

the two old mills was finished, all spinning machinery was moved into the new addition. At that time renovation of the former spinning mill began. This building had a wood-framed floor, supported on brick piers about 2 ft. high. The floor was rotten, the roof needed replacement, and the wood sash in the windows was badly deteriorated. The building was therefore stripped, leaving only the brick walls. The old brick piers were torn out, and the floor was raised by an earth fill rolled inside the brick shell. The earth was spread in 6-in. layers by a bulldozer, and was thoroughly compacted by rolling with a sheeps-foot roller. The new roof level was raised 2 ft. in keeping with the new elevation, and at the same time windows were bricked up. This building will house carding and part of the filling spinning.

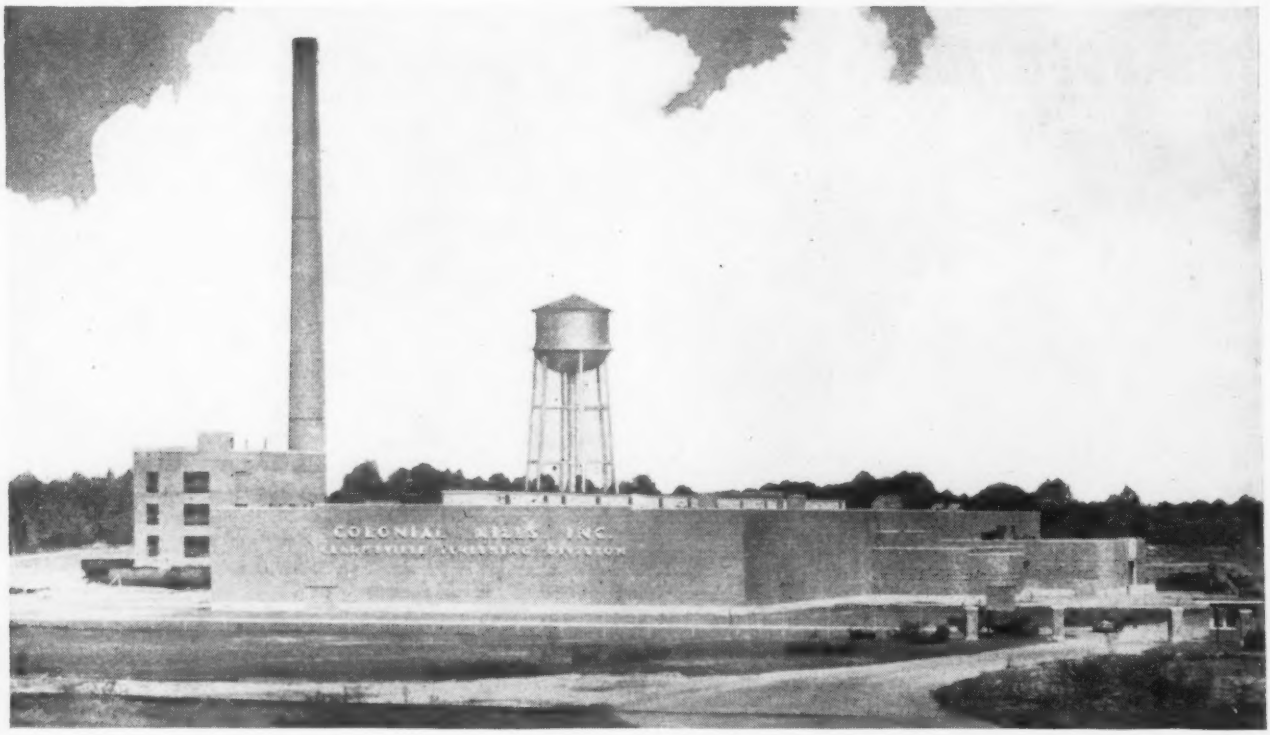
WAREHOUSES. Simultaneously, construction of six new warehouses was underway. Two were needed urgently to house new machinery nearing delivery schedule, and all would be desirable to store the 1948 cotton crop. These warehouses, 50 x 100-ft. units, have a concrete floor slab over 6 in. of crushed stone, and a structural-steel frame supporting a wood-deck roof. A 17-in. brick fire wall separates each unit. With a clear ceiling height of 18 ft., cotton will be stored three bales high, and handling will be done entirely by electric fork lift trucks.

Most important feature of the enlargement program was construction of a new weave mill requiring over-all dimensions of 220 x 330 ft. This building, now under construction, will house 630 Draper looms. Slashing, drawing-in, and cloth inspection will take place on the main floor; cloth storage and a supply room will be in the basement. The basement will be one third the new weave-shed area. The new layout offered a great improvement over the former irregular flow of materials from the cotton-bale stage to the shipping platform.

But this ideal layout provoked two major problems which had to be solved in the new weave-mill design: (1) no suitable site was available on plant property; (2) some method for controlling the horizontal vibrations caused by loom operation had to be devised for the 2-story section of the building over the basement.

ROLLED FILL. Space for the new weave mill was available on the north side of the plant property, but the ground elevation was more than 15-ft. below the desired elevation of the mill floor. If the hump at the warehouses site could be moved to the weave-room site, the location was solved. But a rolled fill, such as would be required, had not previously been re-

(Continued on page 238)



RAYON FINISHING *Plant Solves Many Old Problems*

HIGHLIGHTS: Newest and largest filament-rayon finishing plant erected by Colonial Mills—Drainage system eliminates wet floors and vaporization—Filter plant pumps 2,500,000 gal. daily—Employee benefits emphasized.

THE NEWEST AND LARGEST filament-rayon-finishing plant in the South—Clarksville Finishing Div. of Colonial Mills, Inc.—has recently been completed on a site overlooking the Roanoke River near Clarksville, Va. The plant's design offers a solution to the problem of wet floors and condensation. Other outstanding features are a steam and filter plant and employee and community facilities.

The new finishing plant was built by C. M. Guest & Sons, Anderson, S. C.; Bibberstein and Bowles, Charlotte, N. C., was the engineer. The plant proper at Clarksville consists of three buildings—the dyeing and finishing plant, the steam plant, and the filter plant. All are brick-steel construction. Over-all floor space is over 130,000 sq. ft.—soon to be increased by a new addition now under construction.

The windowless dyeing and finishing plant will process gray goods received from other mills in the Colonial system. It has more than 126,000 sq. ft. of space on one floor, is artificially lighted, and has forced filtered ventilation.

About 40,000 square feet of the floor in the dyeing and finishing plant are paved with a special acid-resisting brick which protects the floor from dyestuffs. This type of pavement is both attractive and serviceable.

The roof of the main building is of the flat built-up type on treated wood planks 3-in. thick. It has a vapor seal, 2 in. of cork insulation, and a tar, felt, and gravel roofing. Long-span roof trusses have eliminated columns within the building.

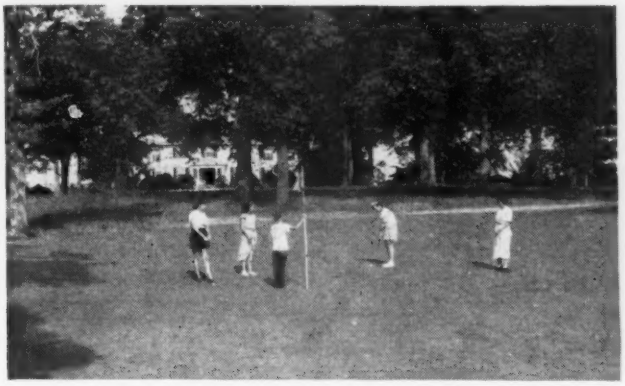
An outstanding feature is the drainage system in the dye house which keeps the room dry and reduces vapor to a minimum. To get these results, a box culvert large enough for a man to walk through was constructed under the full length of the plant. Waste water from the dye becks and jigs falls into this conduit so fast that it has little time to vaporize. A further check on vapors is accomplished by a vapor absorption and ventilation system which permits close humidity control. All ducts are stainless steel.

Located in front of the main plant are modern offices with acoustical-tile ceilings, recessed fluorescent lighting, asphalt-tile floors, and air conditioning and refrigeration.

Steam for the plant is generated in a 5-story building north of the dyeing and finishing plant. The steam plant is equipped with three Keeler boilers, two of 500 hp. and one of 750 hp. These boilers are coal-fired but may be

THE WINDOWLESS BUILDINGS are lighted throughout by continuous-troffer fluorescent lights and have forced filtered ventilation.

MODERN MATERIALS are combined by the architect to achieve interior beauty.



ONE EMPLOYEE BENEFIT built with the new mill was an 18-hole golf course.

HOUSES FOR SUPERVISORY PERSONNEL are on large lots, are structurally different.

readily converted to oil by the use of standby equipment. A dust-free ash-removal system has been built into the power plant. Ashes are removed from the hoppers by a vacuum system and carried through acid- and wear-resisting pipes to an elevated storage silo. Ashes are then dumped into trucks through a scuttle in the bottom of the silo.

PUMPING PLANT. One determining factor in locating the new Colonial plant was the proximity of the Roanoke River which can supply a minimum flow of 700,000,000 gal. of water a day. Water pumped from the river supplies the filtering plant which can process 2,500,000 gal. of water daily. Once the water has been filtered, it is stored in either the 215,000-gal. elevated tank or a clear-well reservoir of 250,000-gal. capacity.

After water has been used in the dyeing and finishing process, it is returned to the waste-disposal plant where all chemicals are removed before it is returned to the river. This "purification" system makes the Clarksville plant one of the first to comply with the new "end-pollution" statute enacted by the Virginia legislature.

In addition to the mill proper, 12 modern homes were constructed for use by executive personnel. These houses are all architecturally different, yet harmonious. The executive houses are on large lots in a wooded section. No houses are required for the plant workers as the great majority of them live on the farms which surround the plant.

Colonial's Karl Robbins has not overlooked the recreational and health needs of his Clarksville employees. An employee recreational area covering about 300 acres of land is now under development. The late Donald Ross, one of the nation's leading golf-course designers, was engaged by Colonial to lay out 18 holes for those who enjoy the sport. Nine of the holes have already been completed and the other nine are on the way. All-weather tennis courts and fields for other forms of recreation has also been built. Colonial has also made these facilities available to all citizens of Clarksville. In this manner, Colonial has not only provided additional employment for the community but, in addition, has contributed to its welfare and happiness.

GUEST HOUSE. C. M. Guest and Sons, the plant builders, also renovated a century-old mansion to serve as a guest house for out-of-town persons who visit the plant. After complete renovation, the guest house was tastefully furnished with antiques by a well-known interior decorator. Nearing completion nearby is a modern club house complete with locker rooms, golf shop, and all the niceties of a country club.

Colonial Mills, with the help of builders and engineers, has fashioned a truly complete industrial community on the rolling Virginia countryside. The company has not only provided good working conditions for its employees, but also good playing conditions. Colonial at Clarksville has embarked upon what appears to be a new era, a better era of textile production and employee relations.

FULL-FASHIONED Plant Expands and Modernizes

HIGHLIGHTS: Color conditioning stressed at Vanette Hosiery Mills—Air conditioning installed in all departments—Boiler designed to economize on gas.

By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD

MODERNIZATION at Vanette Hosiery Mills, Dallas, Tex., includes a new addition, complete air conditioning, fluorescent lighting, color conditioning, and a new boiler.

About 35 ft. was added to the width of the building in the knitting department to take care of the new, long full-fashioned hosiery machines. The knitting department now measures 208 x 140 ft.

The knitting, looping, and seaming departments are completely windowless. All windows in these departments have been removed and walls bricked up. In the knitting-machine aisles, hardwood floors run the length of the machines. This flooring helps the knitter overcome fatigue from standing during his knitting hours.

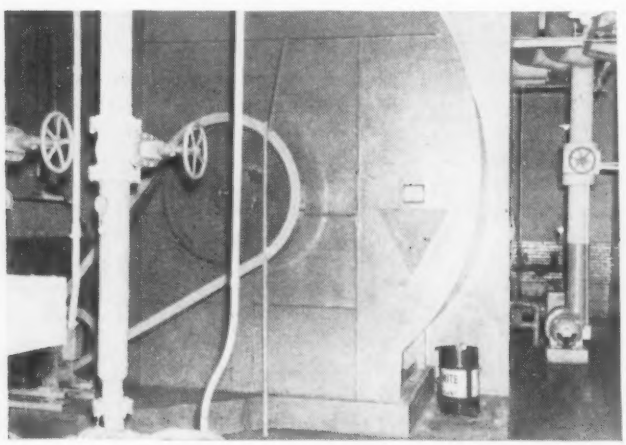
To control humidity and temperature accurately the year around, Vanette Hosiery Mills installed an efficient Carrier air-conditioning and refrigeration system. This system cools and dehumidifies air in summer and heats and humidifies it in winter. Standard conditions of 50% r.h. and 80° F. are now maintained at all times. A new brick building, 23 x 70 ft., with concrete floor, houses the air-conditioning equipment. The centrifugal refrigeration machine is capable of producing 260 tons of ice daily and is driven by a variable-speed, 250-hp. motor. A No. 15 fan driven by a 40-hp. motor delivers 90,000 cu. ft. of air per min. Permanent-type filters are used to filter the air before it enters the spray tank. Filters are taken out every two weeks and cleaned.

The knitting department has approximately 465,000 cu. ft. and serves as the control point for the air-conditioning system. About 60,000 cu. ft. of air per min. is supplied to this department, giving it a complete change of air each 7¾ min. A new and very effective feature was added in the preboarding and boarding departments when the Carrier system was installed. Hoods over the front of the machines were built to take hot air from the machines. This hot air is exhausted from the room by fans driven by a separate motor.

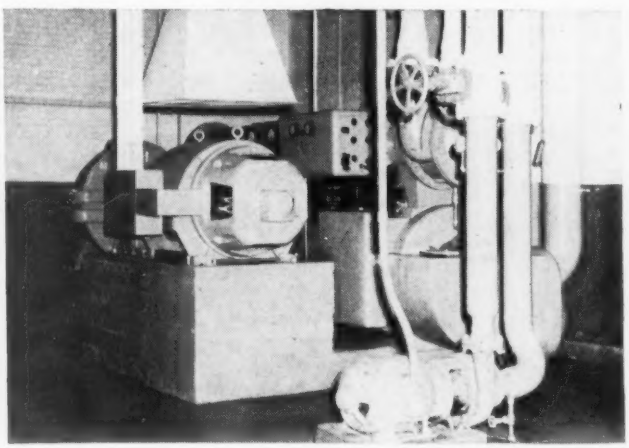
Since the knitting, looping, and seaming departments are windowless, air-relief dampers were installed. An air change takes place in the looping, seaming, and finishing departments every 14.0 min.; in boarding, every 4.8 min.; in the office, every 8 min.; and in the shipping department, every 9 min. Throughout the knitting department, 200-watt fluorescent fixtures are used. Seven 200-watt fixtures are used between each two knitting machines. All other departments use 80-watt fluorescent fixtures.

USE OF COLOR. Vanette Hosiery Mills has found that color conditioning has not merely brightened up the interior but has helped the worker to see better, feel better, and work better under conditions existing in the respective departments. Du Pont's system was used.

Extremes in colors were avoided. Too much color contrast was found harmful to the worker whose work requires close concentration. Constant adaption of the eyes to light and dark was very fatiguing, causing a loss of efficiency. It was therefore most desirable to induce psychological relief through the medium of pastel shades. Color conditioning should also provide maximum reflectivity of artificial light. Since the majority of the Vanette plant is windowless, artificial light



LARGEST IN THE SOUTHWEST is this fan in Vanette's air-conditioning system.



THE REFRIGERATION UNIT is capable of producing 260 tons of ice daily.

must be depended upon not only to supply good seeing conditions but in conjunction with color conditioning to offset a depressing feeling which may result from the absence of windows.

In planning the color scheme, it was found that the fewer colors used the better. As noted in the accompanying chart, a combination of blues and greens were most widely used as these two colors impart a sense of coolness.

COLORS USED IN VARIOUS DEPARTMENTS

Department	Ceiling	Wall	Dado
Knitting	Du Pont Dulux white enamel	Pastel green	Blue-gray
Looping, seaming finishing	Semi-dull white enamel	Pastel green	Blue-gray
Boarding	Flat white	No. 3 each	Rose-wine
Preboarding	Semi-dull white enamel	Pastel green	Blue-gray
Dyehouse	Flat white	Buff	Blue-gray
Shipping	Flat white	Pastel green	Blue-gray
Air-conditioning room	Dull white	Yellow	Blue-gray
Air-conditioning ducts are painted with white enamel.			

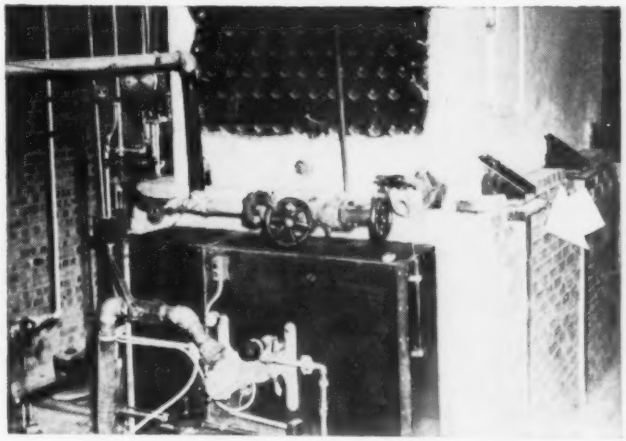
AUTOMATIC BOILER. A new boiler was installed during the modernization program, and a new building 18 x 37.5 ft. was built to house the installation. The new boiler is an International Fuel Saver water-tube boiler, 108 hp. The boiler works efficiently at 150% of rating. One new feature of the boiler is that the water jacket is extended below the tube level to the top of the fire wall, giving an extended heating surface. Preheated water at 160° F. is fed to the boiler through a Kisco electric pump. The 1,500-gal. water tank is heated by a thermostatically controlled steam line connected to a live-steam line from the boiler. The Kisco electric pump is automatically operated by Kisco water-level control which calls for water on low level and refuses water on high level.

Efficiency in gas saving on this boiler is aided greatly by the fire box which has been designed to draw all of the air mixture down between the outer brick wall and the inner fire wall, thereby heating all air used in the gas mixture. This heating aids more efficient combustion and cuts down on the amount of gas wasted through the stack.

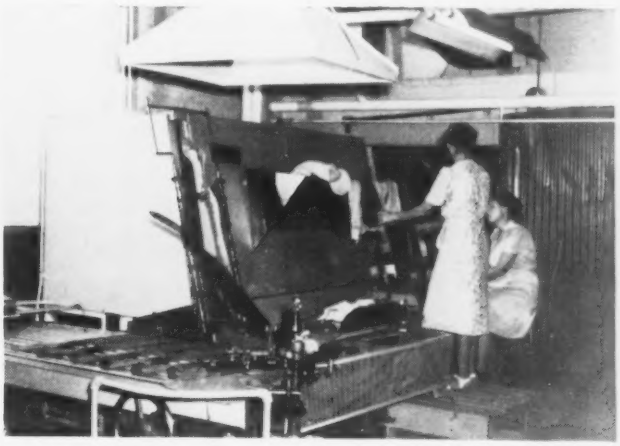
The inner fire wall is constructed of Plibrico molded into a solid fire wall, which lessens damage by vibration. The boiler is fired by natural gas with a Webster burner and a Fisher gas regulator. The Webster burner is a continuous-fire type with minimum and maximum fire operations which are controlled with steam through a Pressuretrol acting upon the Fisher regulator with counter action created by a natural gas pressure.

Another new added feature to this boiler is the Protectglo system which electrically operates all of the automatic features. Three safety devices are directly connected with a manual reset valve placed in the gas line ahead of all regulator valves. Safety feature No. 1: in the event of low water, an alarm is sounded, if alarm is not attended to the manual reset valve is electrically closed allowing no gas to reach the burner. Safety feature No. 2: if over maximum steam is reached, the valve also automatically closes. Safety feature No. 3: in the event of pilot failure, the manual-reset valve closes. The manual-reset valve cannot be opened at any time when there is low water, high steam, or pilot flame is out.

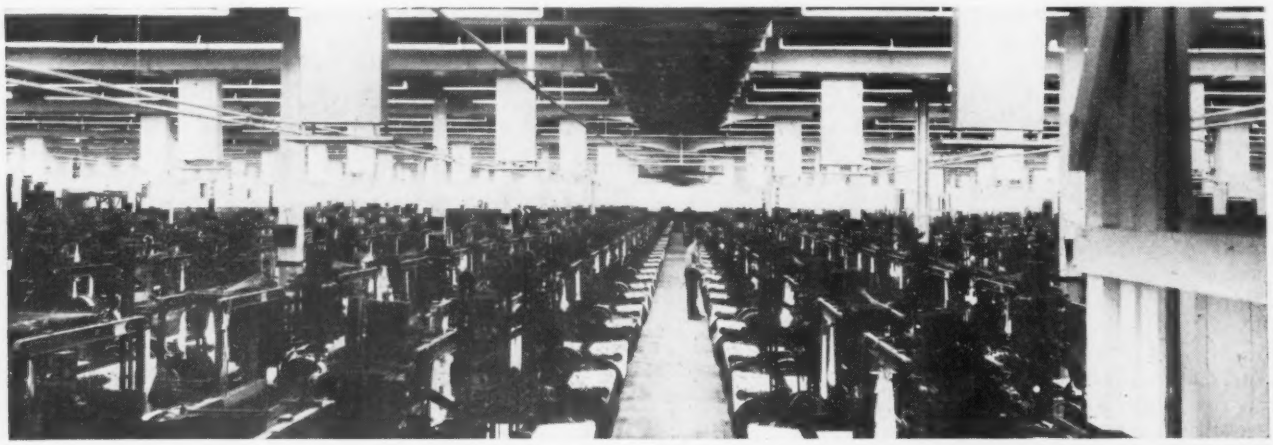
Instead of boiler-water treatment, an electro-neutralizer has been installed. This neutralizer attracts free oxygen in the water, thus retarding scaling and pitting in the boiler.



AIR IS DRAWN DOWN between the outer brick wall and inner fire wall of new automatic boiler at point shown by arrow.



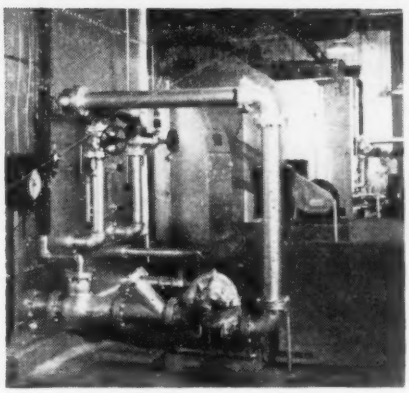
HOODS OVER BOARDING and preboarding machines exhaust hot air from the room.



VERTICAL DUCTS discharge the air at low level and at low velocity.

FAN HOUSES are built on flat, well-insulated roof of weave room.

FANS, PUMPS, and other equipment are housed in fan house.



WEAVE ROOM *Air Conditioned At Drayton Mills*

HIGHLIGHTS: Requirements for three different conditions of humidity met in same room without use of partitions — Cotton, blends of spun and filament rayon, and all spun-rayon weaving carried on at same time.

By **EARLE MAULDIN**
Southern Editor, TEXTILE WORLD

THE AIR-CONDITIONING SYSTEM in the weave room of Drayton Mills, Spartanburg, S. C., might be called a "sectional" system. It maintains three different conditions of humidity in the three sections of the room. Each section is uniform within itself.

The first section is for filament-rayon work, and it is desirable in this section to hold the relative humidity at 65%. The second section is for spun rayon, or a combination of spun and filament where 70 to 75% r.h. is maintained. The third section is on cotton goods, and in this section 83% r.h. is maintained. A constant temperature of 80 to 83° F. is maintained in all sections.

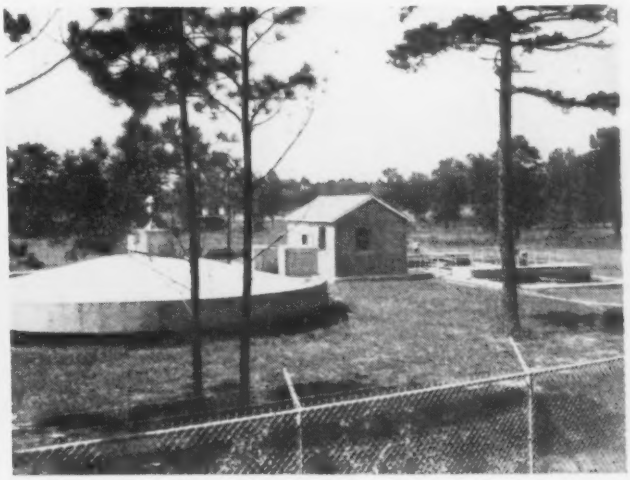
The room contains about 105,000 sq. ft. of floor space. Originally it had a saw-tooth skylight. Prior to installing the air-conditioning system, the saw-tooth construction was removed and the roof made approximately flat [TW, Nov. '47, p. 107]. It was insulated with a 2-in. layer of cork and covered with a 5-ply tar-and-gravel roofing. The south wall, which was only 13-in. thick, was insulated on the outside with 2-in. of insulation and covered with an additional course of brick. The west wall received similar treatment except that for structural reasons the insulation was placed inside and covered with plaster on metal lath. The windows in the north and east walls were removed and the openings bricked up solid. Thus, by reducing to a minimum the heat transference through walls and roof, more uniform conditions are maintained winter and summer.

The system was designed by Lockwood Greene Engineers, Inc., Spartanburg, S. C., and installed by Buensod-Stacey, Inc., Charlotte, N. C. It is called a "low-level diffusion system."

Air in the room is changed every 5 min. The temperature is held very close to 80° F. throughout the year except that occasionally in the sum-

(*Continued on page 234*)

EACH HALF of the divided reservoir holds a half-million gallons and may be emptied and cleaned independently.



JOANNA'S SEWAGE PLANT consists of a sludge-digestion tank (left), an operating control house (center), and aeration tank (right).

JOANNA MILLS *Adds Sewage Plant and Reservoir*

HIGHLIGHTS: Small-activated-sludge system used — Minimum manual operation required — Fire-protection reservoir holds 1,000,000 gal.

A NEW SEWAGE-DISPOSAL PLANT and a new fire-protection reservoir are two recent steps in the modernization program of Joanna Mills, Goldville, S. C.

A small-activated-sludge sewage treatment was selected. Its advantages are: A high degree of treatment obtainable, lower first-cost over that of other comparable treatments, lower operating cost, and stable and uniform operation. Joanna's plant is designed to handle an average 24-hr. flow of 250,000 gal. The normal strength of the raw sewage shows a 5-day biochemical oxygen demand (b.o.d.) of 250 ppm. Tests run show a 32% removal in the primary tank and a 96% over-all removal of 5-day b.o.d.

Raw sewage is first passed through a comminutor where solids are cut into small particles. Sewage is then passed to the primary tank for removal of heavy solids. The primary tank is the longitudinal type with scraper mechanism. The effluent from the primary tank divides, with each half going into one of the combination aerator-clarifier units where aeration and clarification are performed in one concrete structure—saving the cost of additional structures as well as a collector mechanism.

Primary sludge is pumped periodically from the primary tank by means of a time-clock-controlled, screw-feed, centrifugal pump. This sludge is placed in an unheated digester where digestion takes place, reducing solids to about one-fourth the original volume and creating a digested sludge that has no odor, and which is not dangerous from the standpoint of disease-bearing bacteria. This sludge, when ripe, will be dried on sludge-drying beds after which it can be used on the lawns of the village.

The effluent from the combination aerator-clarifiers is clear and sparkling and is discharged directly into the stream.

With this type plant, no fly nuisance is experienced. A minimum of manual operation is required. Pumps and aerators are all operated by time-clocks on a definite pre-arranged program, which program can be varied to suit the actual conditions existing at the plant. If it should be found desirable, the plant capacity can be increased readily by adding another combination aerator-clarifier unit to the existing structures.

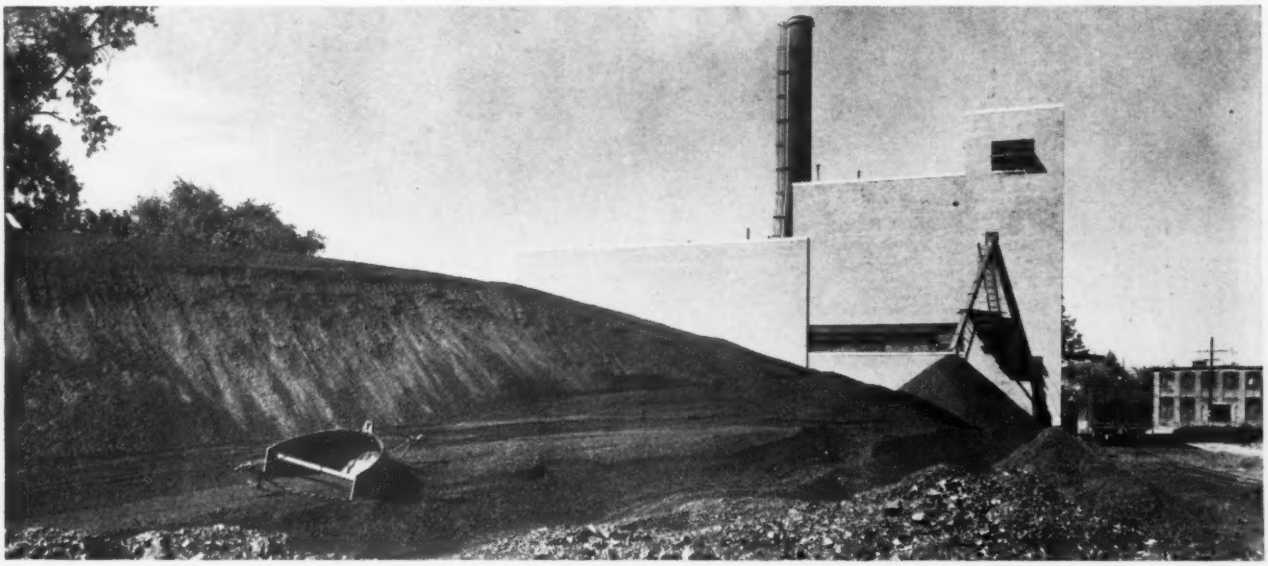
Operating results have been excellent, and the effluent from the plant is said to be purer than creek water. Lockwood Greene Engineers, Inc., designed and supervised the sewage-plant construction. Mechanical equipment for this plant was furnished by the Chicago Pump Co., specialists in activated-sludge-treatment of sewage.

The mill fire-protection system has recently been amplified by provision of a second source of water supply.

This was accomplished by construction of a million-gallon, reinforced-concrete, suction reservoir. The project was handled by Lockwood Greene Engineers, Inc., Spartanburg, S. C.

The reservoir is 100 x 200 ft., has an 8-ft. depth of water, and is divided into two sections for repairs, maintenance, and cleaning. When necessary, one section may be emptied for servicing with a half-million gallons of water maintained in the other section.

Pumping into the plant system is provided by two 1,000 g.p.m. fire pumps, one electric-motor driven, the other steam-driven.



NEW STEAM PLANT centrally located in relation to major mill buildings, burns pulverized coal. It has extraction-type turbine unit, fuel- and ash-handling facilities, and metal-clad switchgear for primary and distribution service.

CENTRALIZED SERVICES
Aid Ludlow Mill Operations

HIGHLIGHTS: New steam plant near load center provides greatly improved power, heating, and auxiliary facilities—Unit transformer substations feed light and power circuits in various buildings—60-cycle distribution replacing 40-cycle system.

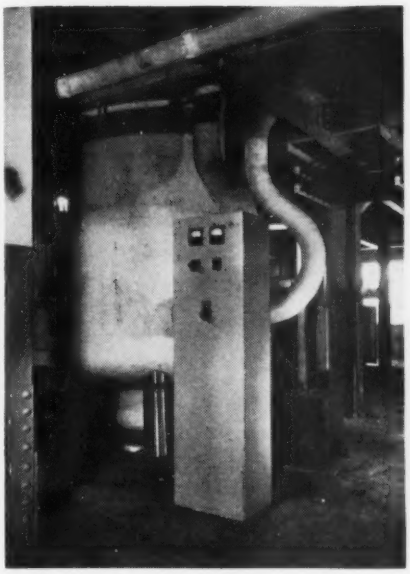
By **HOWARD S. KNOWLTON**
New England Editor, TEXTILE WORLD

OUTSTANDING IMPROVEMENTS in electrical and mechanical services through centralization are being completed at the mills of the Ludlow Mfg. & Sales Co., Ludlow, Mass. As the recent war ended, these mills were served by one steam and two hydroelectric plants owned by the company. Generating units designed for 40-cycle service delivered energy to the mill buildings. Motors were 40-cycle, a frequency which has been largely replaced in industry by 60-cycle equipment. Local transformers were not generally centralized. The steam station equipment was no longer representative of the best modern practice and was getting old fast.

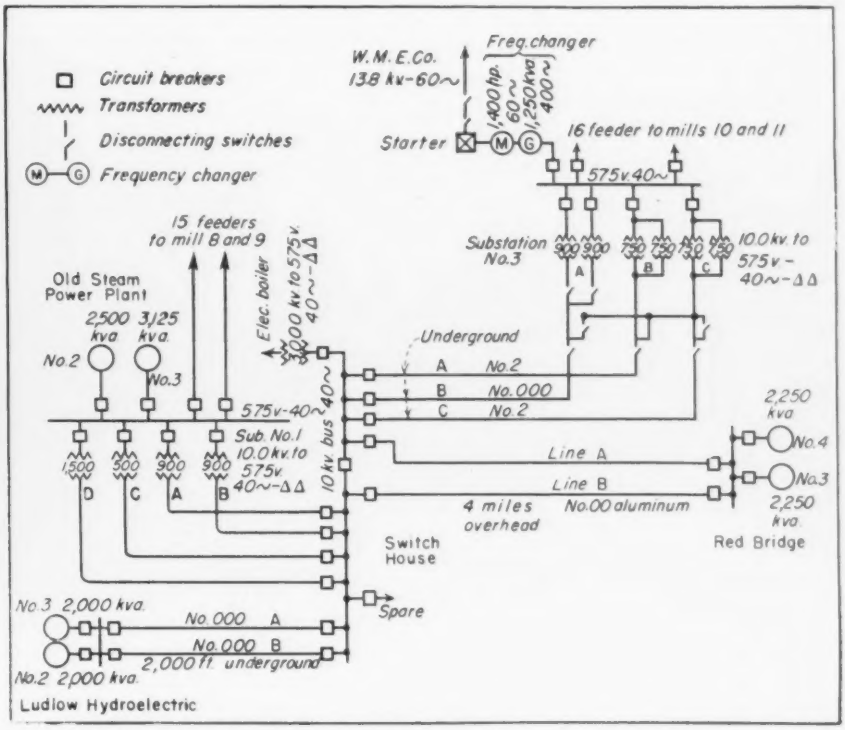
The company had long retained Chas T. Main, Inc., Boston consultants, to advise on mill-engineering problems. In co-operation with R. W. Armstrong, Ludlow's plant engineer, a modernization program was pushed forward. Both hydro plants were continued in service. Their generators were rewound or reconnected for 60 cycles as condition required, and all generators will soon be operating at this frequency. Existing mill motors have been rewound; new motors of 60-cycle design have also been purchased.

The old steam plant has been replaced by a new installation nearer the mill load center and will be fully retired from service. The old plant was about ¼ mile from the new plant site, and contained four boilers run at 200 psi. These burned coal and were stoker-fired. They supplied steam to two steam-turbine units rated respectively at 2,500 and 3,125 kva. Generation was at 575 v., and 15 575-v. feeders ran from this station bus to two of the principal mills. Four transformers totaling 3,800 kva. raised the voltage to 10 kv. at the station high-voltage bus for transmission to two other major mills. At the company's Ludlow hydro plant, near the old steam station, are two 2,000-kva. generating units. Energy at 10 kv. was brought from this hydro to the old steam-plant bus, as was the output of the more distant 3,600-kva. hydro station at Red Bridge on the Chicopee River, also at 10 kv.

At the old steam plant was a 3,000-kw. electric boiler designed for 575-v. service. This was tied into the 10-kv. bus through transformers of the above rating. This was used to absorb energy from the hydroelectric generating units of the company at times of ample water supply on the Chicopee River. It produces steam for delivery to the mill piping system at 100 psi., supplementing the fuel-burning boiler plant and saving substantial amounts of coal yearly. This electric boiler was transferred to the new steam plant and connected through a suitable trans-



ELECTRIC BOILER in new steam plant generates steam at 100 psi. from electrical energy produced by the hydro plants when the river flow permits use of surplus water. It will absorb 3,000 kw. and deliver 10,000 lb. of steam per hour at full load.



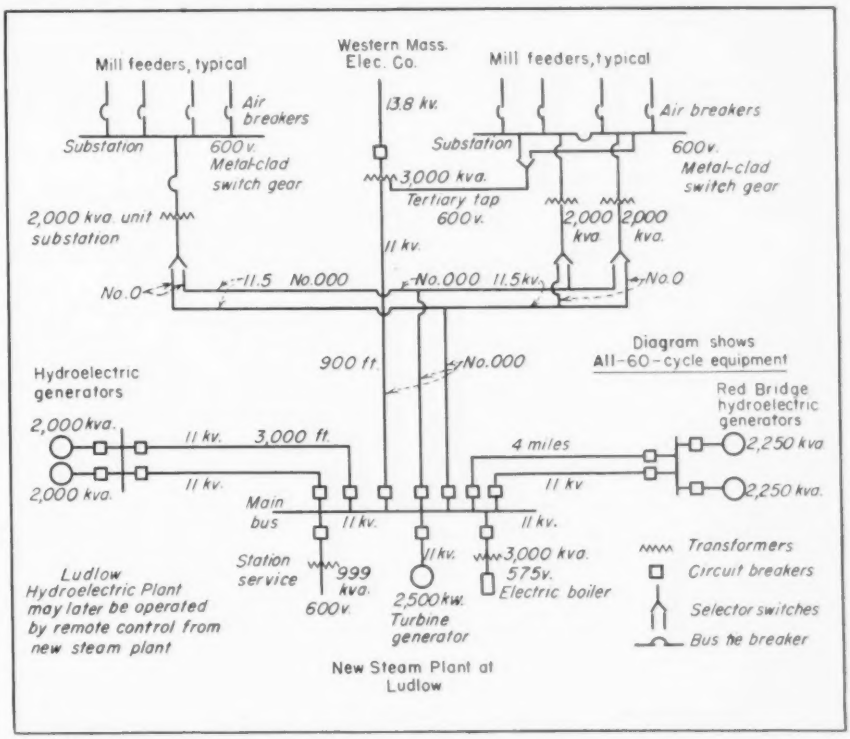
LUDLOW COMPANY's 40-cycle generating and transmission system before the recent improvement program is diagrammed above. The old steam plant contained 5,625 kva. in units generating at 575 v. This energy was stepped up to 10 kv. and delivered to a main bus in a switch house near the plant. Incoming circuits from the hydro plants at Ludlow and Red Bridge terminated at this bus. Two mills were fed at 575 v. from the generator bus at Ludlow steam plant, and the other mills from a substation 575-v. bus as shown. Varied ratings of transformers were used and a frequency changer tied the 40-cycle line of the Western Massachusetts Electric Co.

former to the main bus of that station, which is operated at 11.5 kv.

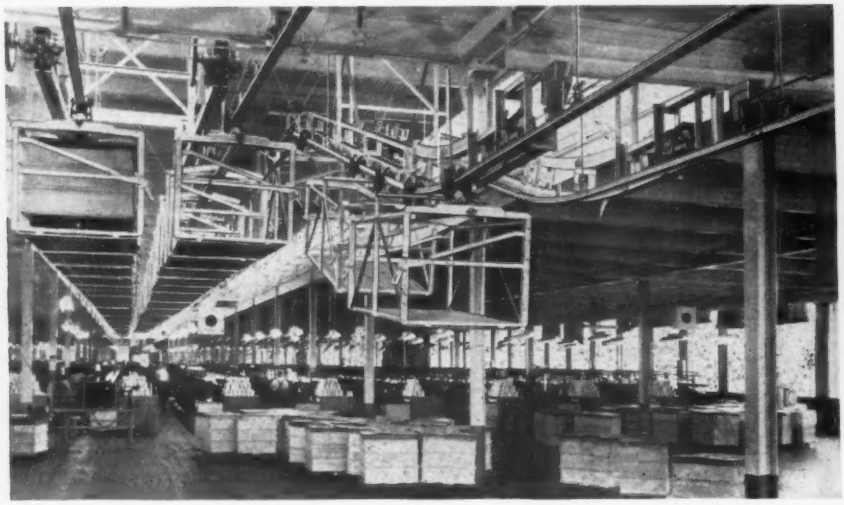
COAL HANDLING. A unique coal-handling system has been installed outside the new steam plant. Railroad cars deliver coal to track hopper for elevation to bunker storage inside station. From the upper part of the boiler house coal can be chuted into a stock pile outside the station, when so desired, for longer storage in yard. It is later reclaimed from yard by drag line bucket and returned to the boiler plant by a hopper-and-conveyor system. A chute delivers dampened ash from the plant to truck or rail cars.

From the old steam plant and its related switch house, three 10-kv. underground cable circuits were carried to a substation serving adjacent mill needs. Here the incoming energy was stepped down to 575 v. through transformers totaling 4,800 kva. The 575-v. bus supplied the required mill motor and lighting-distribution circuits through 16 feeders. All this was at 40 cycles. At this substation an interconnection was in use between the Ludlow company and the 13.8-kv. system of the Western Massachusetts Electric Co. As this is a 60-cycle system a 1,250-kw. frequency changer was provided to enable the Ludlow company to sell surplus capacity to the utility when available. This arrangement also gave Ludlow a breakdown tie with the power company in case of trouble on the Ludlow system.

(*Continued on page 262*)



IN THE FINAL STAGE, Ludlow's electrical supply system was converted from 40 to 60 cycles, with centralization of control at new steam plant. Unit transformer substations replace the older installations; the frequency changer is no longer needed, and when the work is completed all generators will operate in parallel on a 60-cycle bus, through connections between the two hydro stations and the steam plant. Diagram is schematic.

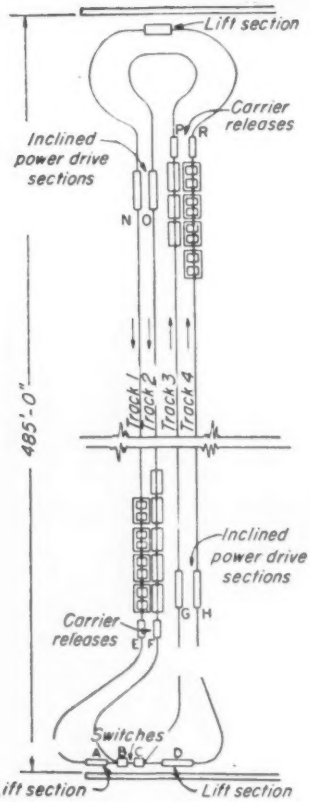


CARRIERS WITH EMPTY TRUCKS move by gravity on track 4 at left. If not lowered for use in foreground, carriers continue to storage on track 1 at right. Empty carriers are stored on tracks 2 and 3 in center.

1 TWO EMPTY TRUCKS are loaded at first floor on carrier on a lift section (below D in drawing). Depressing pushbutton on wall starts carrier up and on its way. As soon as it has cleared lift section on third floor, another empty carrier comes down to this position automatically.

HANDLING SAVES SPACE

And Money at Hanes Hosiery



CARRIERS with two empty trucks each enter monorail system at lift section D. Trucks may be removed at J or stored on track 1. Empty carriers are stored on tracks 2 and 3.

HIGHLIGHTS: Overhead monorail system transports and stores empty hosiery trucks—Lifts carry trucks between first and third floors—Ford truck saves 6.15¢ on each bale of cotton.

STORAGE SPACE and bale- and truck-handling cost is being saved at P. H. Hanes Knitting Co., Winston-Salem, N. C., by an overhead monorail system and an electric fork truck.

Empty hosiery trucks are stored and conveyed overhead at Hanes Hosiery Mills Co., Winston-Salem, N. C. The system has 200 truck carriers, each handling two trucks at a time, moving almost entirely by gravity. The results are a saving in time spent pushing and handling hosiery trucks, saving of warehouse space by using overhead space, relief of elevator loads, reduction in floor maintenance, and speedier handling of trucks. Handling installation was furnished by the Cleveland Tramrail Div., Cleveland Crane & Engineering Co.

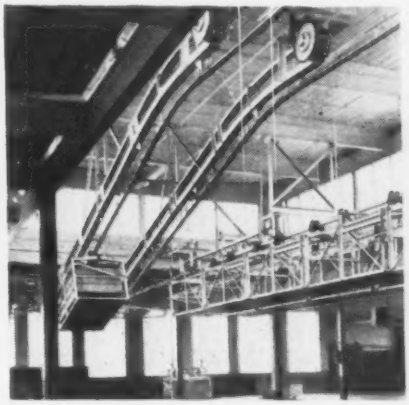
Empty trucks are carried from the first floor to the third floor on a lift section (D in the drawing) and travel by controlled gravity through the knitting room track on one track and return on another track on which they are stored until required. Trucks in storage are released at lift section A in the drawing, but also may be released at J by stopping carriers passing through.

After trucks in carrier have been removed at A, the carrier travels through switches B and C, down track 3, and returns on track 2 where it is stored until needed on the first floor. As soon as a loaded carrier is dispatched from the first floor and leaves lift section D on the third floor, another carrier automatically comes down from the storage track and takes its place, ready for more empty hosiery trucks.

Only seven motors are required for the entire system. These motors operate the three lift sections and the four inclined power drives which convey the carriers to the high ends of tracks 1, 2, 3, and 4, all of which have a slight grade. Only at three points do men have anything to do with the handling system: at the loading point on the first floor and at the two unloading points on the third floor. Their only work is to push empty hosiery trucks on or off of the carriers.

Use of an electric fork truck is re-

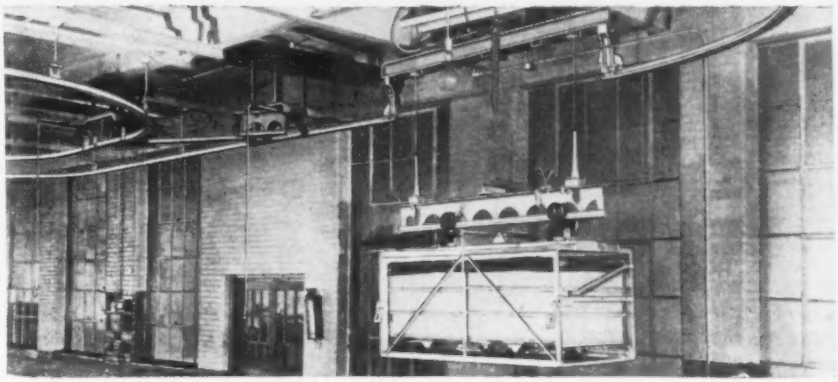
2 LOADED CARRIER from first floor about to leave lift section D on third floor. Carriers have no motors or other propelling drives, but are equipped with centrifugal brakes to prevent excessive speeds.



3 CARRIER IS RAISED after leaving section D to high end of track 4 on inclined power section (H in drawing).

ported to save the Hanes Co. 6.15¢ on each bale of cotton used in the manufacture of its underwear and sportswear. Three men have been made available for productive work in other departments. Machinery, barrels, drums, and cases of yarn are all handled simply and economically without skids or pallets. Officials figure that the equipment will pay for itself within two years. The truck is a 2,000-lb. capacity Skylift, product of Automatic Transportation Co. Replacing a portable electric elevator, the fork truck handles an average of more than 75 cotton bales per hour with only four men at work, as compared with seven men when the elevator was in use.

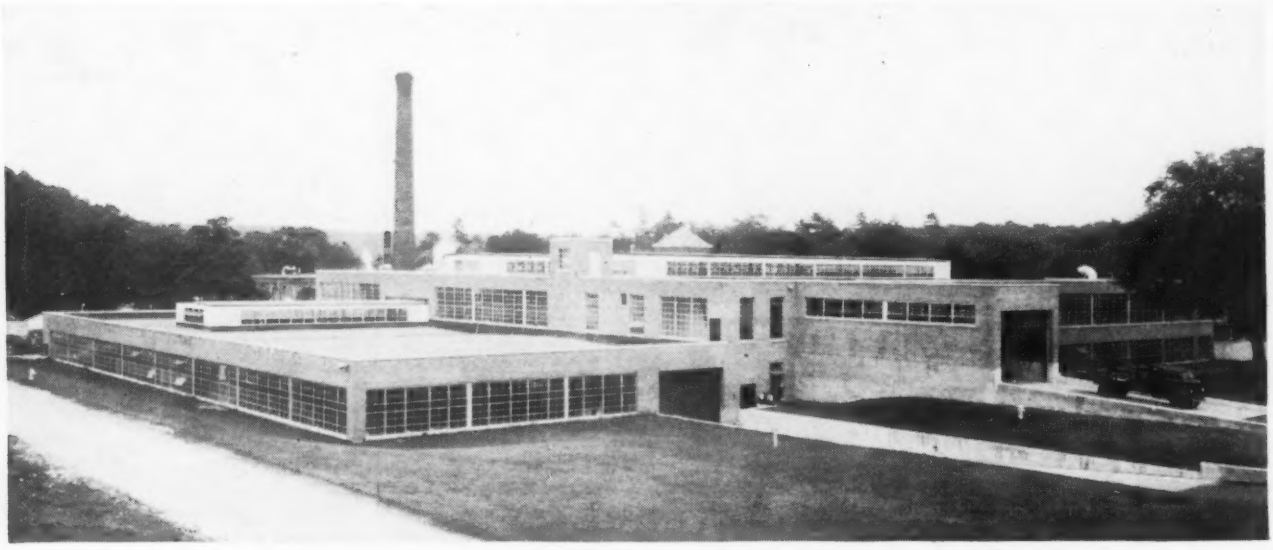
The fork truck handles cotton bales only about one-third of the day. The rest of the time, it is used in stacking and hauling cases of yarn and performing other varying handling operations around the plant. The truck is equipped with chisel forks, and both cotton bales, and yarn cases are picked up and stacked without pallets or skids.



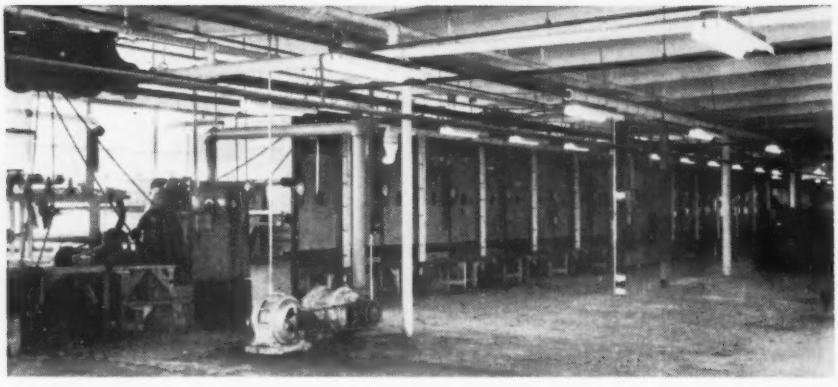
4 CARRIER IS LOWERED at end of room and trucks are removed for use. If trucks are not needed, the carrier continues on to storage track 1.

TWO LOADS of two bales each have been piled, leaving room for a fifth bale to be stacked above.

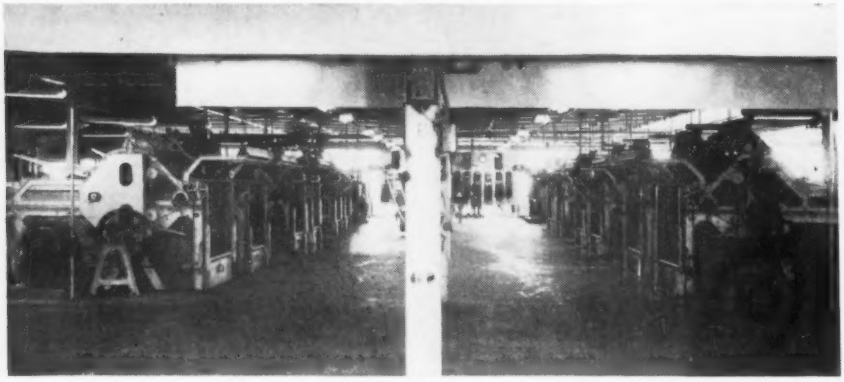
CASES OF COTTON YARN weighing 500 lb. each are stacked five high at Hanes Knitting Mill.



Existing Resources Combined In WOOLEN-FINISHING Plant



A CARBONIZING RANGE continuously performs all operations from acid soaking through neutralizing.



A DRAINAGE SYSTEM beneath the floor of this fulling-mill room and other wet-finishing departments helps keep floors dry.

HIGHLIGHTS: New plant of Hayward-Schuster Woolen Mills erected between existing structures—Natural contours and resources used to maximum advantage to speed operations, supply water—Machinery layout and controls aid economy and product uniformity.

THE NEW WOOLEN-FINISHING PLANT of Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass., finishes all gray goods from the company's several plants. The new plant represents the fruition of several years of study and planning, and the completed unit contains the latest accepted practice in arrangement and the most modern machinery available.

The corporation operates three woolen mills with about 72 looms each. Each mill is a complete unit handling wool from the raw state to the finished product. The mills were separated by only a few miles so that inter-plant trucking was relatively inexpensive. Finishing in two of these plants was difficult—in one because of the water supply, in the other because of building limitations.

(Continued on page 246)

Recommended Tensions for Combination Yarn

Yarn	Tension in Grams	
	Crepe	Acetate
50-den. crepe/50-den. acetate	10	15
75-den. crepe/75-den. acetate	12	20 to 25
75-den. crepe/100-den. acetate	12	25 to 30
100-den. crepe/100-den. acetate	15	25 to 30
100-den. crepe/120-den. acetate	15 to 18	30
100-den. crepe/150-den. acetate	15 to 18	30 to 35
150-den. crepe/150-den. acetate	15 to 18	40 to 45
150-den. crepe/120-den. acetate	15	20 to 25

Acetate tensions should be kept in approximately the above ratios to viscose crepe for good yarn.

Crepe-to-Acetate Ratio in Combination Yarn

Yarns	% of each	Yarns	% of each
50-den. crepe	53	100-den. crepe	49
50-den. acetate	47	120-den. acetate	51
75-den. crepe	53	100-den. crepe	45
75-den. acetate	47	150-den. acetate	55
75-den. crepe	46	150-den. crepe	55
100-den. acetate	54	150-den. acetate	45
100-den. crepe	53.5	150-den. crepe	60
100-den. acetate	46.5	120-den. acetate	40

Percentages may vary slightly from the above, depending on crepe twist and on tensions used.

Tension Ratio Critical In COMBINATION YARNS

HIGHLIGHTS: *Control of acetate is the key—Disk tensions have been suitable—Balanced yarn means fewer skinbacks—Proper acetate twist improves quality of yarn.*

By JOHN LUCAS

WHEN THROWING combination yarns, control of the tension applied to the acetate component is quite critical. The accompanying table shows tensions that have been used successfully to make relatively balanced combination yarns, free from kinks and loops.

If, under stress, both ends of a combination yarn break simultaneously, the yarn is said to be balanced. Such yarns are difficult to achieve, but are usually relatively free from stripbacks.

The secret in achieving a balanced yarn is usually in the tensions applied during doubler-twisting. However, when fancy twisters are used, balance can be achieved by regulating the feed of each of the two sets of feed rolls.

Acetate tension can easily be controlled by means of disks or other devices. Crepe tension, on the other hand, is usually less easy to control because the viscose crepe is supplied on bobbins which must be unrolled. The tension exerted by the unrolling bobbin is not bad if low and constant. However, if yarn speeds are too high, there will be too great a difference in tension from a full spool to an empty one, and poorly combined yarn is sure to result. In addition, many breaks will occur on the doubler-twister.

It is advisable to use acetate yarn that has 3 to 4 turns of twist in it. Such yarn is somewhat round and is easiest to combine with crepe. If the acetate has one turn or less (or, worst of all, opposite twist), loops occur quite frequently in plying, and the yarn lies too flat. Broken filaments, snowballs, and stripbacks are also frequently found in combination yarn made from low- or reverse-twist acetate

When combining acetate and crepe yarns, it is always best to apply twist on twist. The amount of twist in the crepe should not be too high. In fact, a throwster can control the amount of takeup in the finished fabric partly through his soaking bath in addition to the amount of twist inserted.

Applying twist on twist results in the crepe component contracting faster than does the relatively untwisted acetate. This difference in contraction is the main reason why good combination yarns are much more difficult to achieve than are good plied yarns.

Centers of Riegel Textile Corp. extensive research and experimental program are the laboratory building (foreground) and pilot plant (background).

A staff of eight technicians conducts experiments in the large, well lighted Ware Shoals laboratory, regarded as one of the best-equipped in the textile industry.

LABORATORY and PILOT PLANT Pre-Test Riegel Products

HIGHLIGHTS: *New units evaluate materials and develop fabrics without interruption of mill production—Both are well equipped and operate as separate entity although closely tied to plants at Ware Shoals and Trion—Some equipment built in mill's machine shop.*

By HARRY SCHADEN

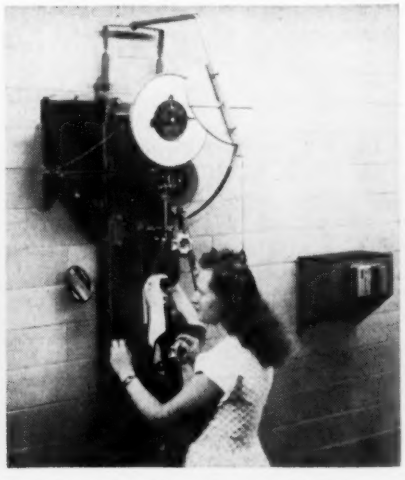
APPLICATION OF RELIABLE CONTROLS to maintain and improve textile production is increasingly important today to manufacturers like Riegel Textile Corp., which develops and tests fibers, fabrics, and processes in a new laboratory and a new pilot plant at Ware Shoals, S. C.

Eliminating costly mill trial and error, the company today is able to determine—even microscopically—the character and ultimate value of a new yarn or fabric before it is approved for production. This enables executives to keep a sharp focus on the ever-changing textile picture and mill superintendents to maintain, scientifically, high standards of quality and efficiency.

The development laboratory and

Newly-designed patterns are run off first by hand on this laboratory strike-off machine, which was made in the Riegel machine shop. This makes possible study of characteristics of a pattern without full-scale operation.

Microscope study of fibers and yarns is one phase of Riegel research. Here a member of the staff photographs a sample of a newly introduced fiber. The photo will be filed in a library for future reference.



Tensile strength and tear-resistance are evaluated in the Scott tensile tester. Minneapolis-Honeywell controls (shown at right) keep temperature and humidity in this room at the same level constantly.

***A sample of yarn** that was processed on the miniature slasher (left) and tested on the yarn-abrading machine (right) is examined by W. D. Inabnit, chemist, and L. C. Reynolds, laboratory director.*

***Flammability test** is being made by one of the staff assistants. With this experiment, it is possible to determine how well specially treated material can resist flame.*

pilot plant, added since the war, fit naturally into the company's scientific approach to textile manufacture. A pioneer in the use of modern technology, Riegel was one of the first to install refrigerated air conditioning, electronically controlled slashing equipment, and continuous-bleaching and dyeing ranges.

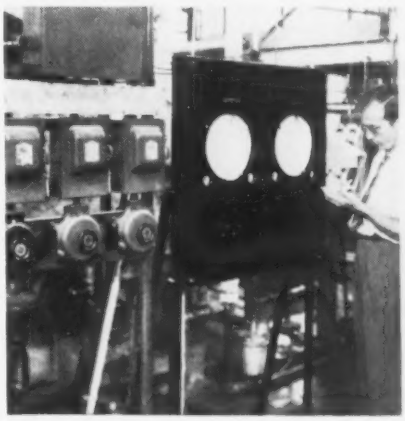
Fundamentally, the laboratory serves two primary functions, according to J. F. Warner, president of Riegel Development Laboratories, Inc. Through close relationship with leading producers of synthetic materials, it is possible to keep abreast of the newest developments that show promise; new products from research laboratories are tested for their practical applications.

In addition, it enables the Riegel mills to determine the value of a product without resorting to the expensive procedure of putting it on the production line.

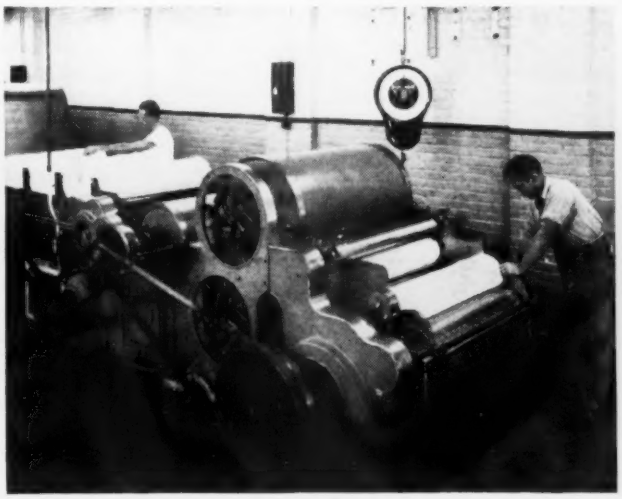
Designed and constructed with meticulous eye to detail, the laboratory is regarded as one of the best-equipped in the textile industry. The building, 40x108 ft., is of reinforced brick construction. Originally it was a cottonseed house. Today it has a modern appearance, with entrance doors of glass, recessed fluorescent lighting, glass-block side areas, and acoustically treated ceilings. It is completely air conditioned.

Located in the fore part of the building are a reception room, an attractively furnished conference room, a library, and the office of Linton C. Reynolds, laboratory director. They

(Continued on page 211)

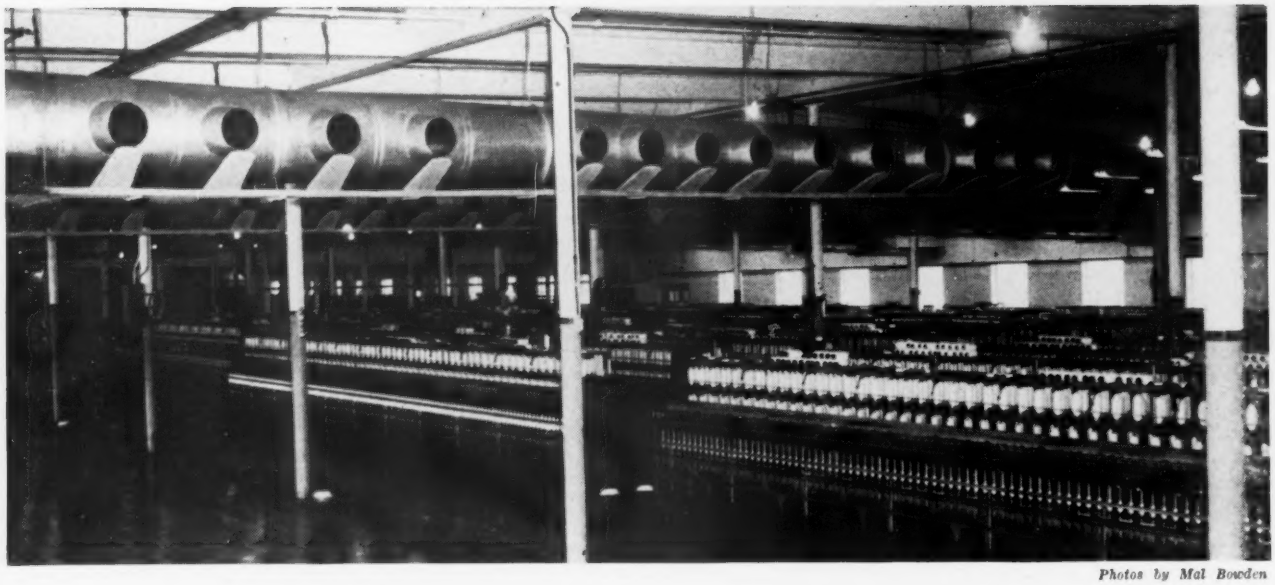


***Jack D. Towery**, engineer in charge of the pilot plant, checks readings of Brown ElectroniK instruments used to control size level, temperature of size kettles, and temperature of drying kettles.*



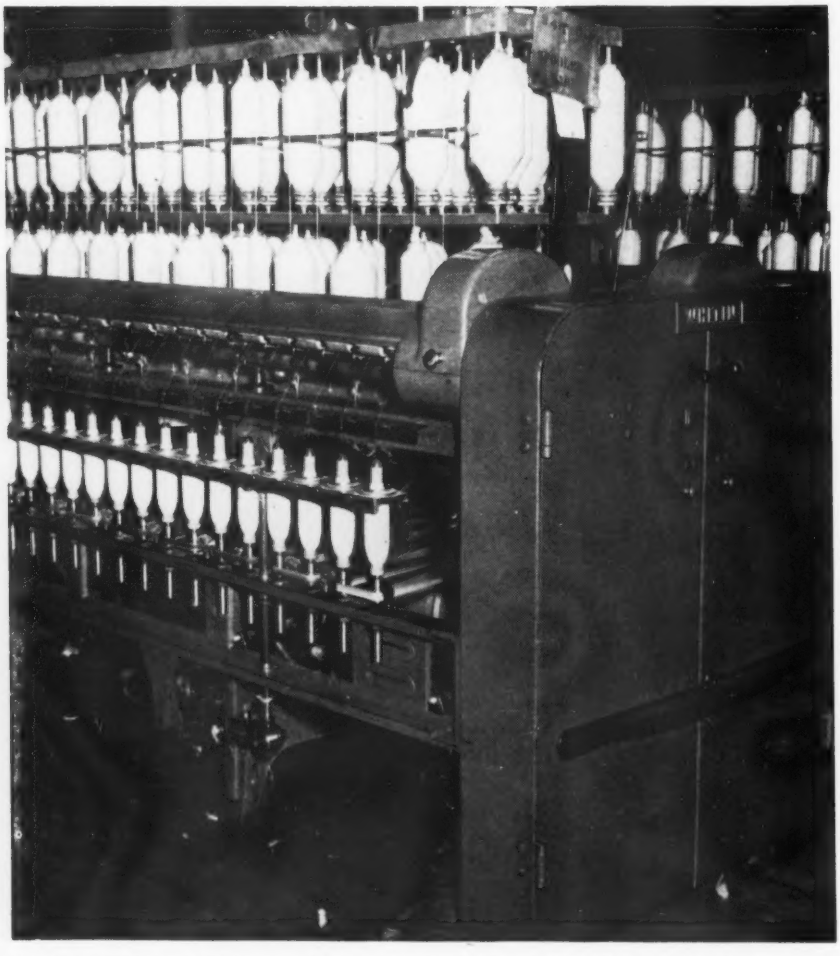
***In Riegel's pilot plant,** operators provide a graphic case-history of each prospective new product by watching it—step-by-step—as it comes to life. Careful analysis is made of the finisher picker operation, for example.*

***Carding, roving, drawing, and spinning** all are carried forward in the pilot plant under conditions that are duplicated in the main mill. An air-conditioning system keeps temperature at 80° in the adjoining weave room.*



Photos by Mal Bowden

Globe Mills Has Model SPINNING and TWISTING



Central system of oiling, and improved support for upright builder arm-shaft feature the head of Globe Mills' new spinning frames.

HIGHLIGHTS: *Modernization program stresses ease of maintenance of equipment and employee facilities — Sampson bearing oilers and centralized lubrication installed — Frames overhauled every six months.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

GLOBE MILLS' progressive management has combined new equipment and methods to modernize fully its spinning and twisting departments. Globe manufactures a medium range of combed peeler yarns, usually varying from 24s to 40s. The mill is a specialty spinner and produces a variety of twists and putups. With brand-new equipment, air-conditionings, and straight line flow of production as the main purposes of its recent expansion, Globe has strived to improve its yarn and the working conditions of employees.

To Globe's employees, the important facilities added by the recent building program were new tile-finished lavatories and smoking rooms where employees can relax; evaporative cooling; light, airy working rooms; a first-aid room; entrance vestibules for pre-shift rest; beautifully finished floors and mill interiors; some new

machines; and some rebuilt older frames that make good-running work.

Older frames were reworked by Precision Gear and Machine Co., of Charlotte, N. C. The new Whitin F-21 (3¼-in. gage) frames have 252 spindles. Dratts are approximately 20 on 24s combed peeler yarn, and the rings are 2⅜ in.

Globe's spinning drives carry through 10-in. cylinders that are considerably improved over previous models. They have ball bearings instead of plain bearings between the cylinder sections, requiring lubrication every six month instead of every 8 hr. as heretofore. Sampson bearing oilers are located conveniently at the side of the frame for oiling. The cylinders on the F-2 frame are specially constructed cylinders to eliminate the loosening of the tin from the cylinder heads. Lengthwise, the heavy cylinder tin is locked so that soldering is not necessary.

The Globe Mills managers believe that the head-end oiling system will not only reduce oiling labor but will insure proper working of the studs, gears, and shafts in the head. A Bijur central lubrication system connects by tubing to all points in the head that require lubrication. To oil the head, the fixer or oiler merely pumps the oil cylinder, expelling oil to the various studs and bearings.

Inside the head, all gears are cut; and a special rigid support holds the upright builder shaft. This additional support to the shaft is a new feature of the Whitin frames which Globe installed.

CHAIN DRIVES. All of Globe's older frames were reworked and overhauled by Precision Gear. Jack and cylinder gear chain drives were added to all the frames to obtain sturdier, vibrationless transfer of power or drive from the cylinder gear through the head. Precision also reworked all of the cylinders on Globe Mill's older frames and installed ball bearings.

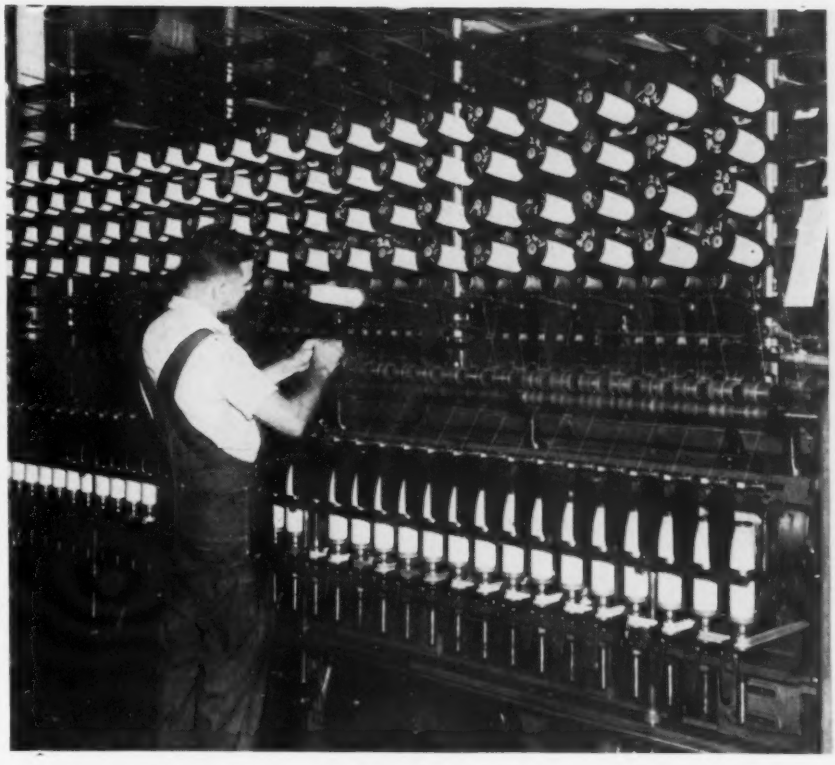
Globe's twisters are Whitin model L, 4-in. gage, with 10-in. cylinders. Automatic yardage setters predetermine the yards per doff and stop the frame automatically when the yards have been obtained. On a 24/2 construction, Globe doffs a 12-oz bobbin and inserts 14 tpi.

Two years ago, the mill installed the Tennant system of dry cleaning floors. As a result, the floors require less attention from the maintenance shop; and according to the mill executives, the floors retain their durable and lustrous finish with little attention from the shop.

Another recent project was the installation of the International Business Machines' master-clock system which automatically sets off the whistle at shift-changing times. Changing times are 6 a.m., 2p.m., and 10 p.m. The master clock automatically adjusts itself for extra closing times such as that at Saturday noon. Additional I.B.M. clocks for time-reading purposes only are in each department.

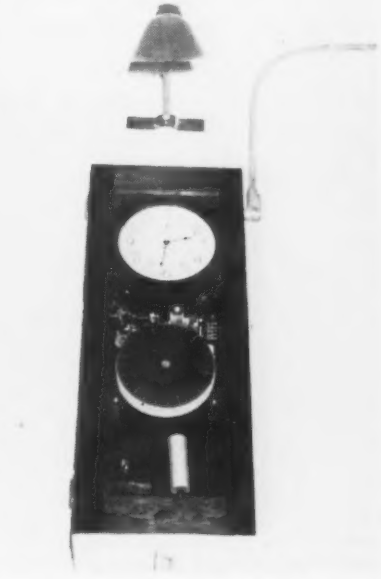
While Globe's overhauling and machine-shop crews are adequate, the mill prefers outside experts to do most of the machine overhauling. Every six months, frames and cylinders are levelled and lined and spindles are plumbed by outside shop crews.

Globe Mills, thus, frees itself of duties and saves time for the important job of making quality yarn in a modern mill where people like to work.

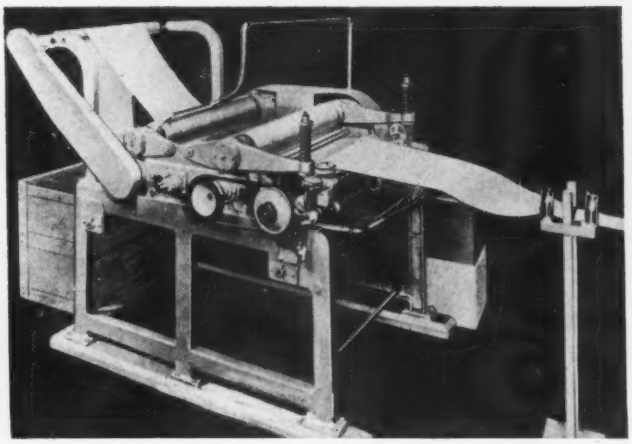


***Automatic yardage setter** on the twisters give accurate yards per doff, stops frame when yardage is obtained.*

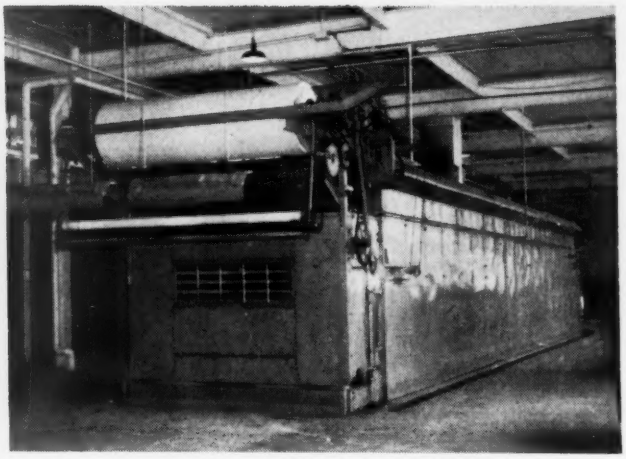
***Easily cleaned tile** lines the first aid room and all lavatories. Smoking rooms are another employee benefit.*



***A master clock** controls all shift-changing whistles and synchronizes all clocks throughout mill.*



Spreading, extracting, and processing are combined in this machine. Any of the typical finishes can be applied.



A loop dryer, used for flat fabrics, is also adaptable for tubular goods. Spreaders open the doubled goods to their full width.

CIRCULAR KNIT GOODS
Impose Finishing Problems

HIGHLIGHTS: *Spreaders permit processing tubular goods in double, flat condition—Centrifugal extractor removes more water than squeeze rolls, but squeeze rolls are faster and continuous.*

By IRVING TEPLITZ
Richards Finishing Co.

THE FINISHING of circular knit goods has certain characteristics peculiar to itself. They stem mainly from the use of the spreader, thanks to which tubular goods are processed as flat goods. The spreader is rectangular in form, is made of thin pipe, and is inserted within the circular-knit jersey to give it the shape of a double flat cloth.

The finishing results desired in circular knit goods are different in some regards from those in flat goods. Two of the chief differences are the need of weight and the need of a non-curl compound to reduce the liveliness of the cloth.

After the piece goods have been dyed, they contain more than their weight in water that must be removed by further processing. The cheapest method of removing water from cloth is in two stages: mechanical squeezing (or extracting) and heat drying. Mechanical extracting is usually done with a centrifugal extractor or a pair of squeeze rolls.

The centrifugal extractor will remove about 65% of the water by weight of the cloth; squeeze rolls remove about 35%. A centrifugal extractor with a 60-in. basket can remove water every 20 min. from 450 lb. dry weight of cotton goods. If loading and unloading time is considered, about 900 lb. of cloth per hour can be extracted.

If the squeeze roll travels about 60 yd. per min. and the cloth weighs 3 yd. per lb., there is an extraction production from the squeeze rolls of about 1,200 lb. per hr. Thus, the centrifugal extractor removes more water each hour, but the squeeze-roll extractor passes more goods through each hour.

EXTRACTOR FEED. The method of feeding the squeeze roll is continuous. If a spreader is used in front of the squeeze roll, the goods are detwisted and prepared for the quetsch. The feeding of goods to the centrifugal extractor is not continuous, and the twist in the dyed goods is therefore not removed during extraction but at the quetsch.

The important distinction is that the squeeze roll extracts the water evenly and uniformly throughout the goods; whereas, a centrifugal machine leaves spots that are wetter or dryer than the rest of the cloth. The application of finishing materials at the quetsch on goods that have been extracted by squeeze roll is even and uniform, as the absorption of material is largely dependent on the water content of the goods. Centrifugally extracted goods are likely to absorb finishing materials in a spotty manner.

The squeeze roll may be designed to extract for two processing lines (or two strings of goods). The well-known Tube-Tex method further synchronizes the squeeze-roll and quetsch operation and speeds up production. Such synchronization cannot be effected where centrifugal extractors are used.

The type of goods may determine the method of extraction used. For woolen fabrics where no quetsch operation is employed, or for fabrics that are liable to tear on a squeeze roll, centrifugal extractors are ordinarily used.

MANGLE. The quetsch or mangle is the machine used for applying chemicals to tubular knit goods. The finishing materials are dissolved, usually in water, and the goods passed through. After the goods are quetsched, they are dried in a loop dryer. An ideal method of operation would be to extract the moisture mechanically, run the goods through the loop dryer,

through the quetsch, and again through the loop dryer. This method, of course, requires two passes through the loop dryer and is somewhat costly.

The quetsch consists of a trough to hold the liquid and a set of rubber rolls to squeeze the excess liquid out of the goods and to distribute the finish more uniformly. The trough should be made of stainless steel so that it will not corrode and should have an overflow pipe near the top to drain off liquid before it overflows the trough. It should have a drain at the bottom of the trough and a pump arrangement whereby the excess finish can be pumped.

It is important that the cloth should pass through the liquid and between the squeeze rolls with a minimum of wrinkles and with an even tension. A stainless-steel roller at the bottom of the trough is useful; the cloth should pass under the roller and up to the rubber rolls set above the trough. After a pass between the rubber rolls, the cloth is folded or otherwise continued in the processing operations.

DAMAGE TO FINISH. The rubber rolls should be true; otherwise, they will leave spots of excess finish or lines of finish in the goods. The ideal set-up for the rolls is one in which the amount of pressure is controlled by means of calibrated screws. If too much pressure is exerted by the rubber rolls, the cloth will be pinched, and holes will be formed as the cloth passes between the rolls. If too little pressure is exerted, the rolls do not perform their function of controlling the amount of finish applied on the goods.

As some cloths are heavier or lighter than others, it is necessary that there be a means of adjusting pressure for each type of cloth.

The finishing material is usually fed by gravity from above the quetsch into the trough. Most plants have a platform built above the quetsch for supporting a water line, steam line, barrels, etc. Finishers are mixed on the platform and fed into the quetsch. Besides the plain gravity feed, it is possible to have the finishing liquid pass through the trough and then return to the finish barrel by use of a pump.

In the quetsch operation, such finishes as a non-curl compound, weighter, softener, stiffening agent, water-repellent, or fire-retardant may be used

The most important finishing material for cotton knit goods is the weighter. Weighter gives body to the cloth and makes it easier to handle while it is cut and sewn into garments. If the cloth is treated with a heavy loading of weighter, the use of non-curl chemical is not necessary.

APPLYING SIZE. Several factors control the application of weighter compound.

There is a loss in weight in gray goods due to the bleaching, scouring, and dyeing process. In cotton goods, there is a loss of 5 to 10% of the weight of the cloth as a result of the removal of waxes, motes, and other foreign matter present in gray cloth. This loss of weight is variable and an average should be established. It is a good practice to check the figure from time to time. As weighter is used in part to regain the loss of gray weight, this loss figure is a basic part of weighter finishing.

The concentration of the weighter solution is dependent upon the amount of moisture in the goods. The quetsch operates at a fixed speed, say 60 yd. per min. Therefore to obtain the same end result, the concentration of weighter solution must be greater for goods that contain 65% moisture by weight (squeeze-roll extraction) than for goods that contain 35% moisture by weight (centrifugal extraction), or for goods that contain practically no moisture (loop dryer).

To determine the amount of weighter needed, the compound is dissolved in a 55-gal. drum of water at 150° F. A few trial runs are made with different amounts of weighter, and the finished weights are compared with the gray weight and the scoured weight of the goods. The proper concentration is then established.

SIZE PICK-UP. Assume that the average loss in weight due to scouring cotton is 6% and that 96 lb. of weighter adds 80 lb. of weight to the scoured cloth. We have the following figures:

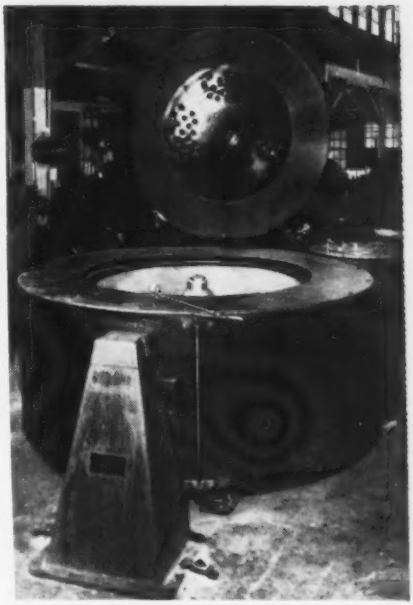
Gray weight	1,000 lb.,	or 100%
Scoured weight	940 lb.,	or −6%
Finished weight	1,020 lb.	or 102%

Thus, 12 lb. of weighter compound per 1,000 lb. gray weight of goods is equal to 1% gain in weight from scoured cloth to finished cloth. (Use gray-weight figure as a basis of computation.) In order to obtain gray weight, 72 lb. of weighter compound must be used per 1,000 lb. of gray cloth. In order to obtain a 5% gain over gray weight, 132 lb. of weighter must be used per 1,000 lb. If the 55-gal. drum of weighter solution handles more or less than 1,000 lb. of gray cloth at one run, adjustments in the figures must be made.

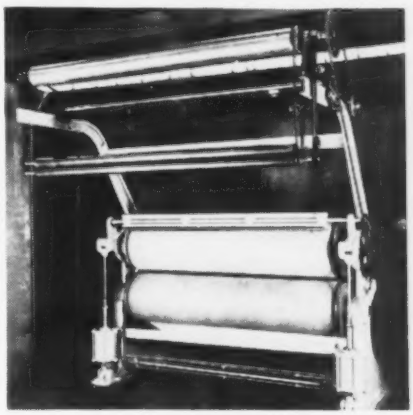
There is a gain in weight over scoured weight with the use of finishing materials whether it be non-curl, weighter, softener, water-repellent, etc. Each gain will be in a different percentage that can be determined by practical tests.

The non-curl compound used to deaden the natural elasticity of the knit fabric is usually a starch or gum and is applied at 1% of weight. Weighter compound is generally a resin, such as urea formaldehyde. Some types of starches are used too. A softener is used to give the cloth a richer hand. The stiffening agents are types of resins or starches.

As a rule, dyeing and finishing plants purchase finishing materials from the manufacturer of such chemical compounds and rarely, if ever, make their own. Finishing compounds should be inexpensive, easy to handle and dissolve, and simple to apply. They should not affect dye, color, hand, or goods.



Centrifugal extractor removes about 65% of the water in scoured circular knit goods. Because it can be used only for batch processing, it is slower than . . .



. . . Squeeze rolls, which remove about 35% of the water content but can be operated continuously in tandem with a quetsch.

Spinning Training Schedule

	Time	Remarks
FIRST WEEK		
1st Day		
Instruct learner in safety Go over company safety rules	30 min.	Stress safety continually during all instruction
Trip through the department	45 min.	
Start and stop machinery	15 min.	Enough so learner has opportunity to start and stop
Four main operations of spinning Creeling-in roving Piece-up ends Cleaning Patrolling	Balance of day	This is explanation and demonstration, using breakdowns of jobs
2nd Day		
Repeat safety rules	10 min.	Safety must be stressed
Cost of providing job	15 min.	
Four main operations of spinning	Balance of day	
3rd Day		
Quality exhibit Show good and bad work Explain why bad	1 hr.	
Four main operations	Balance of day	Safety must be stressed
4th Day		
Four main operations	All day	
5th Day		
Four main operations	All day	Learner rated by instructor
SECOND WEEK		
Assign learner two sides		Instructor to circulate between learners; continue training where necessary—not neglecting safety
THIRD WEEK		
Assign learner four sides		Instruct as above
FOURTH WEEK		
Assign learner six sides		Give oral trade test; learner rated by instructor and foreman separately
FIFTH AND SIXTH WEEKS		
Assign learner eight sides		Give performance test; learner rated by instructor

The next assignment depends entirely on the ability of the learner. Foreman should rate employee on 25th and 75th day of employment.

Definite Program Speeds SPINNING TRAINING

HIGHLIGHTS: *Developing instructors and program is first step—General tests, such as for dexterity, help select trainees—Job breakdown is basis for instruction—Tests and ratings show progress.*

By C. H. PETERSON, Jr., *Time Study Engineer, Spray Cotton Mills*

A PERSON WHO is to be trained to be a spinner must have certain characteristics; the most prominent being finger dexterity. Combined with dexterity should be rhythmic movements and stamina for light, but continuous, operation. Dexterity tests are available from many sources to aid in the selection of potential spinners; and while these tests are by no means infallible, they do provide one more tool to aid the employment manager.

Within the plant, preparations should be made for the new spinning "pupils" when they are selected. Experience has shown that an instructor definitely assigned to the job of guiding learners is the most effective and cheapest way of training new spinners. In addition, standard practices can be set up which will result in worthwhile improvements, such as better piecing up of ends, which in turn will show up in the weaving operation or actually in the appearance of the goods. A better product is of tremendous importance in today's increasing demand for quality merchandise.

In the training of the instructor, it will be found that the use of the Job Instructor Training, which was so widely used during the war and is familiar to most plants, is an effective means of developing good instructors. As instructors are trained, it becomes necessary to develop the material that is to be used. In this, the instructor should have a definite part in the preparation. Shown is a typical outline of spinning training to be followed by the instructors.

JOB BREAKDOWN. Once the outline is completed, it becomes necessary to make a job breakdown exactly as the job is to be taught. This assures that standard methods of performance will be set up. Job breakdowns should be a combined effort of the foreman, the assistant foreman (if one is used), the time-study engineer, and the instructor. Illustrated is such a breakdown of the piecing-up operation.

Other breakdowns required to train the operators may be obtained by following the pattern of the one given. Those required will be: creeling-in roving, cleaning (some plants use special cleaners), and patrolling.

The next requirement for spinning training will be a determination of the new operators' ability to absorb the training. This is of tremendous importance, for if the operator cannot acquire the needed skill to perform the spinning operations, he will become a dissatisfied employee, which is harmful to herself and her employer.

Ability determination can be made by use of a performance test, a rating sheet, an oral trade test, and an

Spinning Training PERFORMANCE TEST

The test will primarily be based on operator's ability to piece up end.

The examiner should take into consideration these factors:

1. Time required to do full operation.
2. Method of doing job.
   - (a) Note location of gripping of bobbin.
   - (b) How much yarn is used to thread traveler.
   - (c) Piecing up end.
     1. Breaking thread leave ½ in.
   - (d) How well lap stick is cleaned.

Spinning Training ORAL TRADE TEST

1. What is the danger from loose articles on floor?
   Ans. Hurt someone.
2. In piecing up roving how far do you lap?
   Ans. Lap splice about 1 in.
3. Where do you put the waste?
   Ans. In apron pocket or in can.
4. What is the skewer or roving stick?
   Ans. A wooden stick for holding roving.
5. What is the danger in using the brass hook in picking front steel bearing?
   Ans. Can scratch rolls and flutes.
6. What is the difference in wiping the bottom creel on single and double roving?
   Ans. Single roving reach over rolls. Double roving reach under rolls.
7. If the bobbin is nearly full, where do you grip it to take it off spindle?
   Ans. Under roll near bottom.
8. In threading the traveler how many inches of yarn do you pull off?
   Ans. About 15 in.
9. Is it necessary to clean lap stick before putting it in its proper place after piecing end?
   Ans. Yes
10. How do you find loose end?
    Ans. Run finger over yarn to locate.

Spinning Training RATING SHEET

NAME..... DEPARTMENT.....

	Poor	Fair	Good
How's he doing?			
Quality—Ability to do work up to standard	☐	☐	☐
Quantity—Ability to produce satisfactorily	☐	☐	☐
What's his attitude?			
Toward company—Company pride	☐	☐	☐
Toward supervisor—Act toward supervisor	☐	☐	☐
Does he play on the team?			
Willing to do what helps most?	☐	☐	☐
Is receptive to ideas and has he usable ideas?	☐	☐	☐
Does he get along with others?			
How do his fellow men feel about him?	☐	☐	☐
Is he safe?	☐	☐	☐
Is he dependable?			
Does he follow instructions?	☐	☐	☐

Absentee record

Days absent ....

List the things where he or she could improve.....

.....

.....

.....

.....

Rated by .....

STOPS THE SPLATTER—ONCE AND FOR ALL

Suntac Oil Also Reduces Downtime, Protects Bearings and Cuts Oil Costs in Half

A mill scheduled to work 24 hours a day had to shut down twice a week to lubricate its 221 looms because the oil seeped out. Bearing failures were a continual threat. Furthermore, the oil splattered on the fabrics, with costly and troublesome results.

Two years ago, at the suggestion of a Sun Engineer, the mill changed to Suntac, an oil "Job Proved" in the textile industry. A marked difference was noted at once. The oil stayed in the bearings, protecting them—and stayed *off the cloth*. Downtime was cut in half, thus increasing production. With the splattering stopped, half as much oil was used—a substantial saving with so many looms.

Here is a case of a Sun Oil raising output, reducing maintenance and protecting machinery at the same time—even improving the quality of the product. This is typical of "Job Proved" Sun Oils the length and breadth of industry. What they are doing to make operations more profitable for others they can do for you. To get complete information about Sun textile lubricants and processing oils, call or write the nearest Sun Office.

SUN OIL COMPANY • *Philadelphia 3, Pa.*
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SUN PETROLEUM PRODUCTS
"JOB PROVED" IN EVERY INDUSTRY

SUNOCO

employee progress form, all of which are illustrated. Incidentally, these also serve the purpose of evaluating the training; for if a majority of pupils fail, it can be assumed that either the material or the instructor is not adequate.

There should be no hesitancy to give the tests. Most of the people who will be trained have been given tests in their schooling, and no repercussions have been reported where they have been given.

The various tests also provide an additional advantage insofar as they present an opportunity to praise those who do well (which is of prime importance) and to offer suggestions for improvement to those who do not progress rapidly.

It will be noted on the employee-progress form that only a three-point rating scale is used. This is intentional, for it has been found by practical experience that when a foreman or an instructor uses a rating sheet with more than three points of rating, he is prone to use the middle three. A three-point scale, therefore, forces the rater to classify better the person being rated.

If it is determined that any of the "pupils" will not fit a job, some action should take place (transfer or discharge). It cannot be emphasized too strongly that an employee who cannot produce by running the proper number of sides is a liability to the company and a dissatisfied employee because of low earnings.

Other courses for textile operations, such as weaving and spooling, can be set up following much the same pattern as outlined here. The method outlined has been successful in actual mill use to produce good operators and has resulted in very definite reductions in the time required to train them.

Breakdown of Piecing-Up Operation

1. Take bobbin off spindle	1. Grip the bobbin with the left hand near the top if possible. a. If bobbin is nearly full, grip under rail near bottom.
2. Find loose end.	2. Run finger over yarn to find loose end
3. Thread traveler.	3. Pull off 15 in. of yarn. a. Hold bobbin in left hand, yarn in right hand, and hook under traveler.
4. Place bobbin on spindle.	4. Grip bobbin in left hand to stop spindle.
5. Thread guide.	5. Push thread guide down. Thread guide by pulling end down, then up.
6. Piece up end.	6. Break thread—leave ½-in. length. a. Hold end between forefinger and thumb of right hand. b. Twist end of thread to left against roving on steel roll with quick motion, and release quickly.
7. Clean lap stick by removing.	7. Remove with right hand. a. Protect other end with left hand. b. Clean thoroughly and place back in position.
8. Clean lap stick without removing.	8. If lap stick is reasonably clean, remove roving waste by reaching under ends and sliding waste off end of stick.

Spinning Training EMPLOYEE PROGRESS FORM

NAME..... DEPARTMENT.....

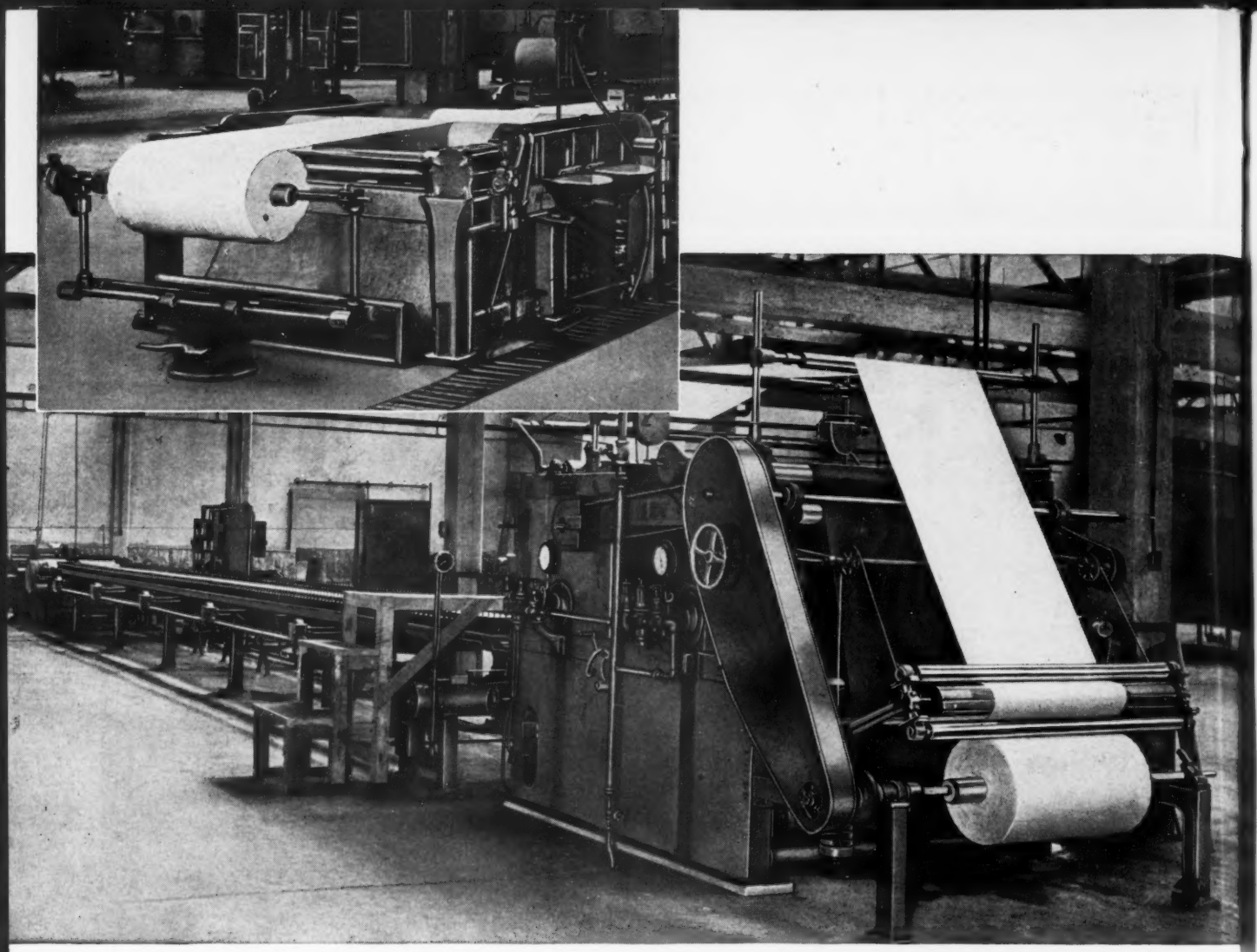
(Circle Figure Which Describes Employee)

CHARACTERISTIC	RATING		
1. Skill, Aptitude, Dexterity	Fumbles, clumsy, awkward; can't do this type of work. 3	Average skill to do job. 2	High skill in doing job. 1
2. Learning Ability	Learns with difficulty. Memory very poor. 3	Average in learning. 2	Keen and alert. 1
3. Effort	Pays little or no attention. 3	Normal or average attention to training. 2	Applies himself seriously. 1
4. Performance	Extremely slow. 3	Average performance. 2	Performs work very well. 1
5. Quality of work	Careless and sloppy. 3	Average or within standards. 2	Exceptionally fine workmanship. 1
6. Safety	Very careless. Dangerous to other workers. 3	Average attitude toward safety. 2	Very careful. Doesn't take risks. 1
7. Attitude toward company	Strongly against company. 3	Average attitude. 2	Loyal, earnest and sincere. Is a fine employee. 1

Would the employee fit better on other work? Yes..... No.....

Rated by.....Date.....Reviewed by.....Date.....

Training should be discontinued.....



Why Butterworth Builds a Palmer Range *this* way

Take a practical mill man's word for it—the latest type Butterworth-built Palmer Finishing Range gives more production and better tension control than ever before possible. It includes these Butterworth Machines:

(a) 4-roll horizontal Pad or Quetsch;
(b) 60-foot straight automatic Tenter with automatic rail guiders at entering end;
(c) Palmer finishing unit with 60-inch diameter Cylinder and Winder.

This high-speed range is driven by AC-DC generator set with individual motors on Pad and Tenter. There are specially designed tension controls between each unit.

We built this latest-type Palmer Range with practical mill men offering suggestions and criticism at every stage. It put our design department on the spot—but we like it that way. And so do our customers.

Let us tell you about the results in terms of increased production and better finishing.

Butterworth

H. W. BUTTERWORTH & SONS CO., Phila. 25, Pa.

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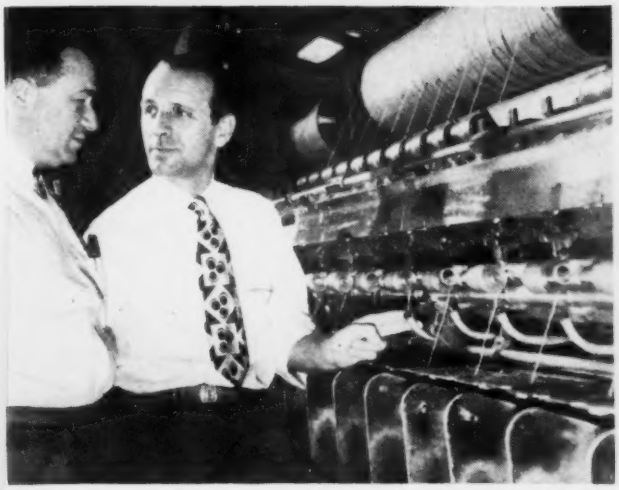
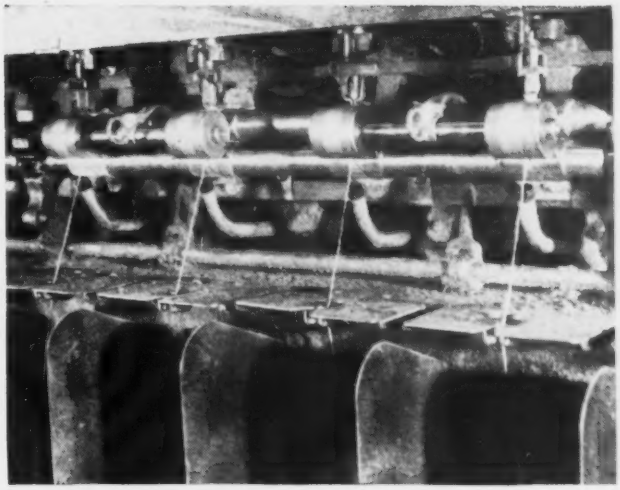


Norman Jones, *personnel director of Beattie Mfg. Co., shows the author tubes which have replaced scavenger rolls.*



Suction pipes *for each spindle carry waste to two large ducts inside the frame.*

Spinning WORK REDUCED 10% in Woolen Mill

HIGHLIGHTS: *Beattie Mfg. Co. installs Pneumafil on 22 machines—Scavenger rolls removed—Waste kept in better condition—Less fly in air.*

By GUSTAV ZELLNIK, *Consulting Editor, TEXTILE WORLD*

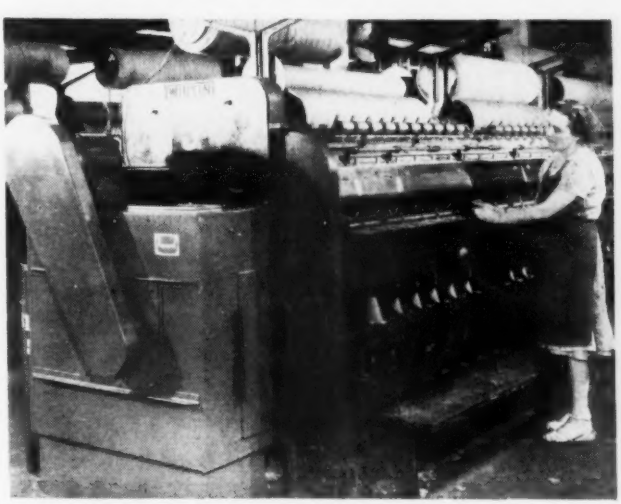
FIRST PNEUMAFIL INSTALLATION in a woolen mill, at Beattie Mfg. Co., Little Falls, N. J., is credited with increasing spinners' earnings in some cases 10¢ per hour. The company has equipment, as shown in the photographs, on 22 frames; all spinning frames are scheduled to be equipped with Pneumafil attachments.

With the system, each spindle has an individual pipe. The 100 or 120 small pipes on each frame side are run into a main duct located above the main cylinder drum on each side of the spinning frame; the ducts lead to the waste chamber at the end of the machine.

Ends that come down are sucked immediately in the pipes and are conveyed automatically through the collecting header into the collecting waste chamber where waste is accumulated and retained by a filter. The open and loose material accumulated is ready to be put back into the feed box of the card. If not reused immediately, it is already assorted and dusted to be used in a blend of the same color and construction at a later date.

The Pneumafil equipment furnishes, in effect, a vacuum cleaner at each roll boss to collect, in addition

(*Continued on page 216*)



Individual motor *drives the unit at end of each spinning frame. It is mounted above the collecting chamber.*

Roving waste *from different frames is not mixed and is in good condition for reuse.*

A New Columbia-Southern Manual

. . . now available for those who want basic information on Chlorine

Prepared by the joint Technical Staffs of Pittsburgh Plate Glass Company, Columbia Chemical Division, and Southern Alkali Corporation, this 72-page Chlorine Manual is just off the press. It presents basic information and data which is useful to technical, transportation and purchasing men, and of interest to managing executives and others who are concerned with the buying, handling and use of Chlorine. We shall be glad to send you a copy. Just send your request on your company letterhead. Pittsburgh Plate Glass Company, Columbia Chemical Division, Fifth at Bellefield, Pittsburgh 13, Pa.

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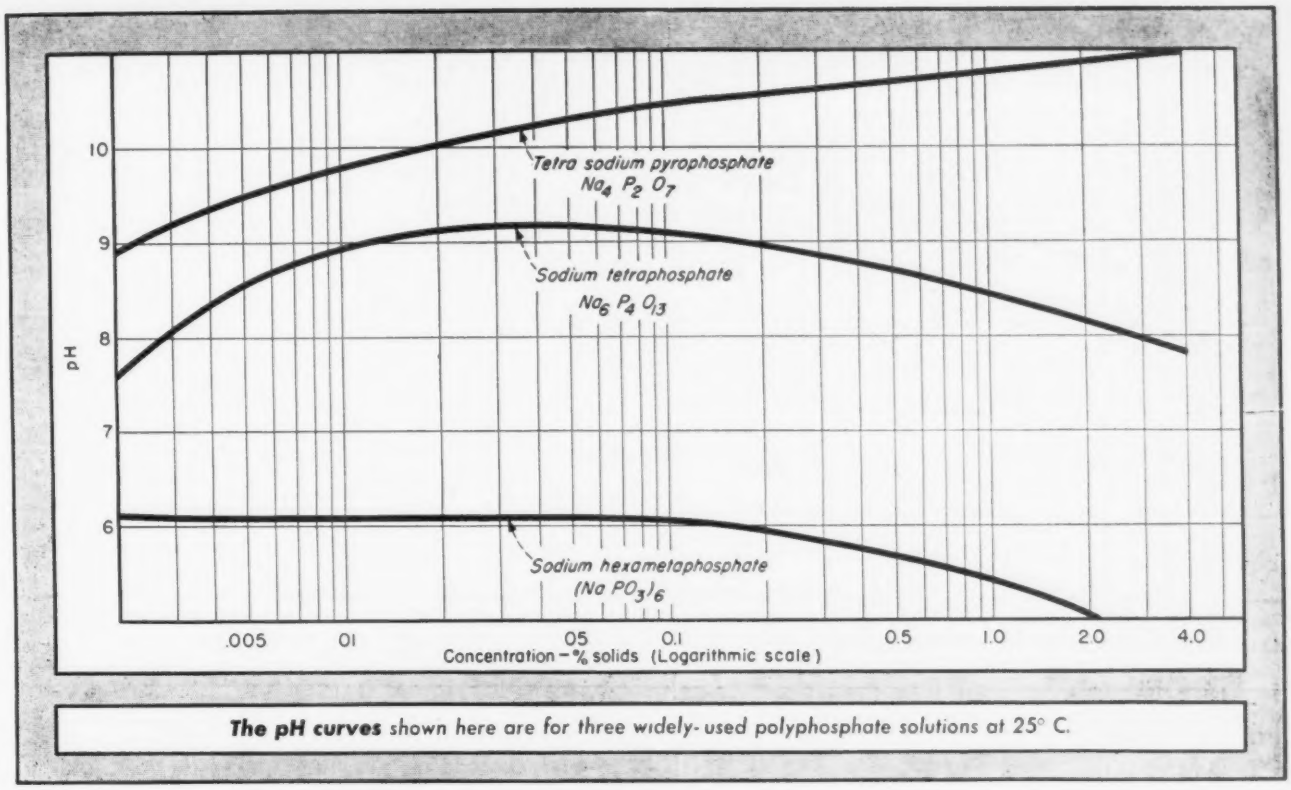

The pH curves shown here are for three widely-used polyphosphate solutions at 25° C.

POLYPHOSPHATES
Are Boon to Textile Finishers

HIGHLIGHTS: *Compounds have been known to chemists for over a hundred years—Their ability to sequester metallic ions renders them useful in many wet-processing operations—Also valuable in water treatments and corrosion control.*

THE ORTHOPHOSPHATES, starting with phosphoric acid (H_3PO_4), monosodium phosphate (NaH_2PO_4), disodium phosphate (Na_2PHO_4) and trisodium phosphate (Na_3PO_4) are known to every student of inorganic chemistry. The last named has been used for years by bleachers and dyers in scouring and dyeing operations, familiarly called TSP. Until rather recently, however, the polyphosphates were neither too well known nor were their properties and applications too well understood by textile finishers. Yet, over a hundred years ago, complex phosphates had been prepared in the laboratory and their properties studied. Notably, Thomas Graham in England, prepared salts of metaphosphoric acid, studied their properties, and presented a carefully detailed paper on this subject in 1833.

During the early studies, much confusion prevailed, due to contradictory results and apparent inconsistencies obtained by different investigators. The situation gradually became somewhat clearer as more data were accumulated and more research chemists devoted their time to the study and development of the complex phosphates.

Today, as a result of all the hard work put into this field of chemistry, three chemical compounds have emerged as the most useful and most economical of the many complex phosphates possible for textile use. These are: sodium hexametaphosphate ($NaPO_3)_6$, sodium tetraphosphate ($Na_6P_4O_{13}$), and tetra sodium pyrophosphate ($Na_4P_2O_7$). These products are marketed under various trade names and at various prices, though the prices usually check out fairly closely to another as to P_2O_5 content.

The manufacture of the polyphosphates begins with orthophosphoric acid, an ortho salt, or a combination of both. Heating to elevated temperatures dehydrates these compounds and fusion takes place as the compounds melt. Careful control of temperature and time determines the end product as well as the amounts of other polyphosphates found, other than the one desired. After the melt has been completed, the clear phosphate glass is cooled and tempered. The resulting products are sold variously in lumps or broken-glass-plate form, granules, and powders.

PROPERTIES. These compounds, in general, exhibit similar properties, particularly in respect to their tendency to sequester calcium and magnesium ions in soluble form. This is probably the most valuable service they render to the textile industry. No end of trouble in scouring, bleaching, dyeing, and finishing operations has been caused by hard water or the presence of calcium and magnesium salts in the cloth. These unite with soda-

(Continued on page 220)

CHEMICAL USERS' GUIDE To General Chemical Products for the Textile Industry

PRODUCT	AVAILABLE FORMS	COMMERCIAL STRENGTH (MIN.)	SHIPPING CONTAINERS	APPLICATIONS
Glauber's Salt, Crystal $Na_2SO_4 \cdot 10H_2O$ *(Sodium Sulfate)*	Colorless Crystals	96% $Na_2SO_4 \cdot 10H_2O$ 42.3% Na_2SO_4	Bags	Dyeing assistant.
Glauber's Salt, Anhydrous Na_2SO_4 *(Sodium Sulfate)*	White Granules	99.5% Na_2SO_4	Bags	Same as crystal but stronger product.
Sulfuric Acid H_2SO_4	Liquid	66° Be 93.19% H_2SO_4	Carboys Steel Drums Tank Trucks Tank Cars	Carbonizing wool; dyeing; desizing cotton; souring; rayon spinning bath.
Acetic Acid CH_3COOH + water	Colorless Liquid	Various	Carboys Barrels Tank Cars	Dye bath; souring agent; imparting scroop to cotton and silk.
Aqua Ammonia NH_4OH + water *(Ammonia)*	Colorless Liquid	26° Be 29.4% NH_3	Carboys Steel Drums	Wool scouring; dyeing.
Hydrochloric Acid HCl + Water *(Muriatic Acid)*	Liquid	20° Be 31.45% HCl	Carboys Tank Cars Tank Trucks	Souring; removing hypochlorite bleach; dyeing.
Tetrasodium Pyrophosphate, Anhydrous $Na_4P_2O_7$ *(TSPP) (Pyro)*	White Powder	98% $Na_4P_2O_7$ (Equiv. 52% P_2O_5)	Bags	Stabilizing peroxide bleaches; water treatment and dispersing agent; detergent.
Sodium Metasilicate $Na_2SiO_3 \cdot 5H_2O$	White Granules	29.0% Na_2O	Bags Fibre Drums	Kier boiling as detergent.
Sodium Sulfide Na_2S + water	Red Chips or Solid Mass	60% Na_2S	Steel Drums	Dyeing with sulfur dyes; depilatory for wool pulling; desulfuring rayon.
Sodium Sulfite, Anhydrous Na_2SO_3 *(Sulfite)*	White Powder	98.5% Na_2SO_3	Bags Fibre Drums	Rayon manufacturing.
Sodium Bisulfite, Anhydrous $Na_2S_2O_5$ *(ABS) (Sodium Metabisulfite)*	White Powder	97.5% $Na_2S_2O_5$ (Equiv. 65.5% SO_2)	Fibre Drums	Bleaching wool; anti-chlor after bleaching with hypochlorite; rayon manufacturing.
Oxalic Acid $C_2H_2O_4 \cdot 2H_2O$	Colorless Crystals	99.5% $C_2H_2O_4 \cdot 2H_2O$	Fibre Drums	Bleaching; dyeing; for mordanting wool with chrome.
Ferric Sulfate $Fe_2(SO_4)_3$ + water *(Iron Copperas Nitrate)*	Liquid	47° Be 11% Fe	Carboys Barrels	Silk weighting; mordant.
Ferric Nitrate $Fe(NO_3)_3$ + water *(Iron True Nitrate)*	Liquid	43° Be 47° Be 10% Fe 11% Fe	Carboys Barrels	Silk weighting; mordant.

OTHER PRODUCTS: Disodium Phosphate; Nitre Cake; Sodium Silicate; Trisodium Phosphate; Sodium Hyposulfite; Aluminum Sulfate; Lead Acetate; Mixed Acid; Epsom Salt; Chrome Alum; Aluminum Chloride; Ammonia Alum; Potash Alum; Ammonium Sulfate.

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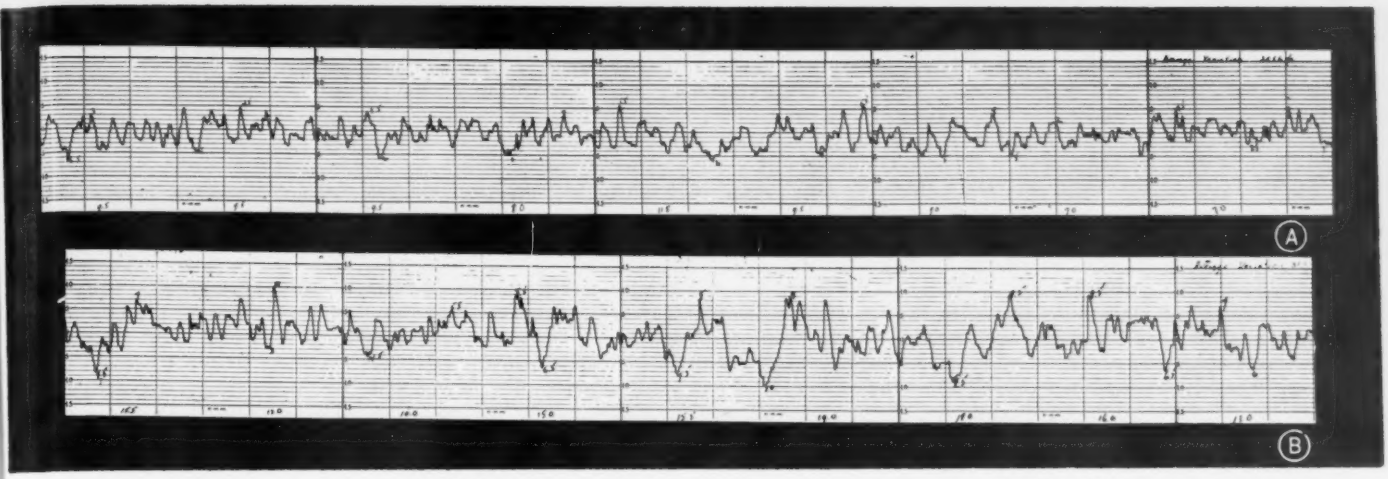

Average variation of wool top A is 20.86%. This stock should spin well. Variation of top B is 31.90%, which is about average for commercial top.

American System of Spinning Requires EVEN WOOL TOP

HIGHLIGHTS: *A good-spinning wool top should have an average variation of about 20% or less—Standards for evenness are advocated—At present, American system needs at least three processes prior to roving.*

By FRANCOIS E. CLEYN
Consulting Editor, TEXTILE WORLD

THE AMERICAN SYSTEM has brought long draft to the worsted industry and has proved conclusively that long drafts can be applied to a wool sliver, under certain conditions, without affecting the quality or evenness of the resulting yarn. The logical effect of this discovery is the reduction of the number of operations necessary to prepare a wool sliver for spinning.

In my article of March, 1946 in TEXTILE WORLD ("Worsted Yarns Effectively Spun on Cotton Frames"), I took the liberty of suggesting that if worsted yarn is spun on long-draft cotton machinery, the system of spinning should be called "The American System." This suggestion was well received and is currently used in the industry. The purpose of this article is to review the developments that have taken place in the American system and to discuss how these developments will affect the various sections of the industry, particularly wool combing, French spinning, Bradford spinning, and cotton spinning.

The American system can be defined as a process for preparing a wool sliver without twist and for using long drafts to reduce this sliver to yarn.

UNEVEN TOP. After several years of experimenting, people engaged in the processing of worsted yarns on this system had to admit that it was impossible to fully exploit the advantages of long draft because commercially produced tops were too uneven. With Saco-Lowell's sliver tester, it has been determined that on a total weight of 100,000 lb., variation on a good-spinning top should be no more than 20%. The average variation is 30%.

The American system has been developed with the idea of changing the worsted-spinning industry to the pattern of the cotton-spinning industry, which is recognized as a most economical system of spinning yarn. Everything worked out all right until it was discovered that if the worsted systems of spinning are inefficient, as compared to the cotton system, it is in no small measure due to the fact that they have to start with a more uneven material in the wool top.

Tops have been manufactured with the assumption that evenness is not important because mistakes will be corrected by doubling in spinning. This assumption has been going on for many years, and operations in most spinning plants are laid out to cope with the worst top commercially produced. It is hard to believe that worsted spinners have put up with this condition for so long. Standards have been established for quality and length of fiber, and it is imperative that standards should also be established for the yard-by-yard evenness of the sliver.

If such standards are adopted, the spinner can cut down the number of doublings and plan his drafting layout economically. Until such time as this is achieved, the worsted spinner will have to employ a number of unnecessary and wasteful operations in his mill.

The American system is a challenge to the combing industry. If this industry is not prepared to assume its normal share in the preparation of the wool sliver for spinning, it will disappear in its present form and combing will be added to any progressive spinning unit.

GILLING NECESSARY. The American system was originally designed to operate without gilling. This idea had to be changed because of uneven tops. It is probable that at least one gilling operation will soon be used by all mills producing yarn on this system. The result of adding this operation will be that all the various systems of spinning worsted yarn will start with a gilling operation.

From this point on, established

(*Continued on page* 139)

If you knew all the variables

A storm—a shift in the wind—can sometimes raise havoc with craft normally considered safely moored. It's the variables that upset even the best calculations.

Likewise, in de-sizing operations, it's the variables that cause the difficulty. Variables in water, variables in sizing formulas, create the new and unexpected problems you have to meet in almost every lot.

Bleachers and dyers faced with such problems know the value of the all-purpose de-sizing agent—Diastafor brand—Type L. By many of them, it's considered almost fool-proof.

Diastafor — Type L has been developed especially to meet widely varying conditions —to help you with problem lots where a flexible, adaptable de-sizing agent is required.

Diastafor will work well in a wide range of temperatures and pH. You can depend on it to give you a good "hand"—even on your hardest lots—whether you are working with cottons, rayons or mixed goods. It can be used satisfactorily in the new continuous process.

Diastafor customers praise it for its economy as well as its ease of use and efficiency—qualities that have made Diastafor the leader for 40 years.

If you have not used Diastafor, why not let one of our representatives tell you how it can be of service to you? Write Standard Brands Incorporated, *Diastafor Department*, 595 Madison Avenue, New York 22, New York.

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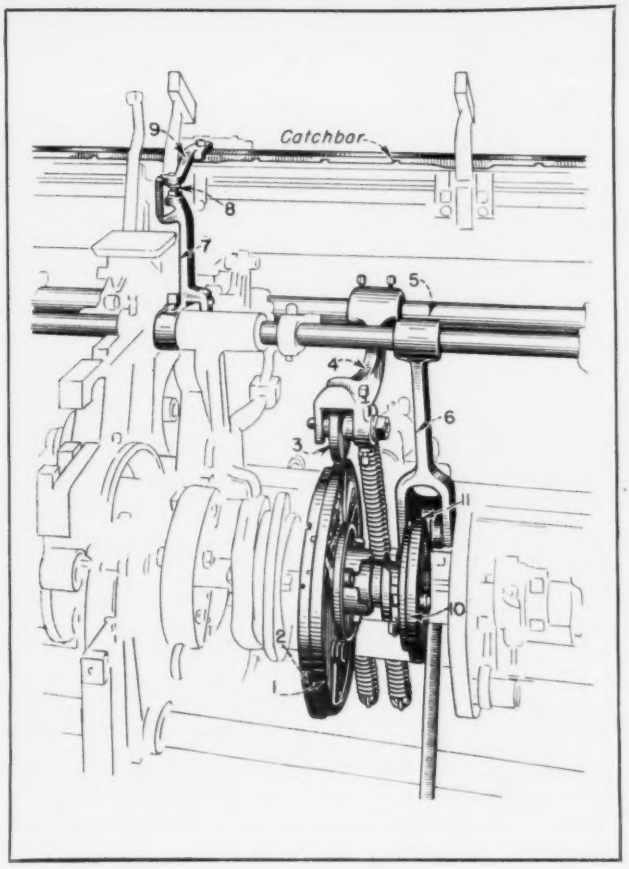
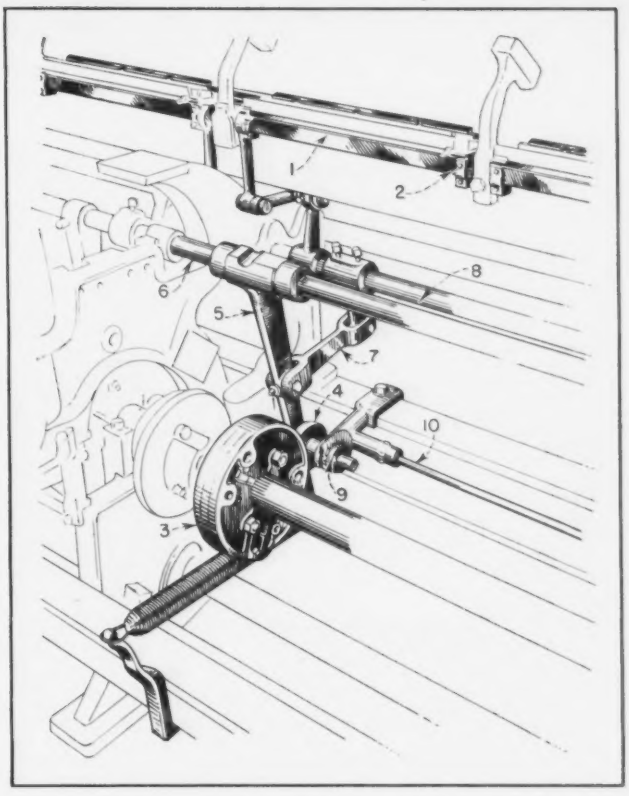


***Catchbar operation** depends on these parts. Working cam 1 controls the movement of the catchbar during the loop-forming action. Narrowing cam 2 causes the catchbar to advance and return the sinkers and dividers during the loop transferring or narrowing. (Other working parts of these motions are: 3, roller; 4, lever; 5, shaft; 6, cam lever; 7, vertical lifting lever; 8, spherical head on lever; 9, connecting bracket; 10, cam; and 11, roller.)*



***Knock-over motion** that travels through an arc (one of the three motions now in use) functions through these parts: 1, bits in brass bar; 2, bearing in sinker-head bottom; 3, cams; 4, cam roller; 5, cam lever; 6, front catchbar shaft; 7, connecting lever; 8, knock-over-bit shaft; 9, shifter for roller; and 10, shifting rod.*

The three cams shown at 3 are used to give a variable distance between the top edges of the sinkers and dividers. The lowest cam is used for inserting welt bars; the next highest is used when heavy yarns are being knitted; and the highest is used when the finer, or leg, yarn is being knitted.

Care of KNITTING MOTIONS Determines Hosiery Quality

***HIGHLIGHTS:** Catchbar and knock-over-bit motion require skillful maintenance—Fine nylon yarns may knit into better fabrics with excessive knock-over—Needle-replacement record can help reduce costs.*

By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD

IN ERECTING NEW full-fashioned machines, as well as in fixing old machines, it is always well to start with the needle-bar cams. This motion can be used as a standard when cams are to be gaged on the entire machine.

Standard cam gages provided by the machine builder should always be used. Cam bits placed on various cams are made adjustable to compensate for wear and should not be adjusted unless absolutely necessary. Filing of cams is bad practice; the machine builder has given a good deal of study to make the cams, and the motions are right.

The function of the catchbar is twofold: (1) to move all the dividers forward simultaneously after the sinkers have been advanced and (2) to control the movements of both sinkers and dividers from that point until the completion of a course of loops.

The horizontal movement is controlled by the back catchbar cams. Gaging the catchbar should be done with the standard front bed gage if even loops are to be had.

The vertical motion of the catchbar engages and disengages the sinkers with the catchbar slot. To obtain the correct height of the catchbar, each lift arm must carry the same amount of weight throughout the entire length of the machine. The height of the catchbar is correct when the clearance between the sinker butts and the bar is 0.032 in. while in the normal position.

Verge plates that are uneven are

SYN-O-TOL "LT"
Liquid synthetic detergent and penetrant for kiering, scouring and dye leveling.
CATION SOFTENER 686-C
Durable finish that does not yellow whites or pastels.
SOLUBLE LUXOLENE
Sulfated synthetic ester for exquisite finishing of fine fabrics.
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Special sulfated refined vegetable oil. Dye assistant and finishing oil.
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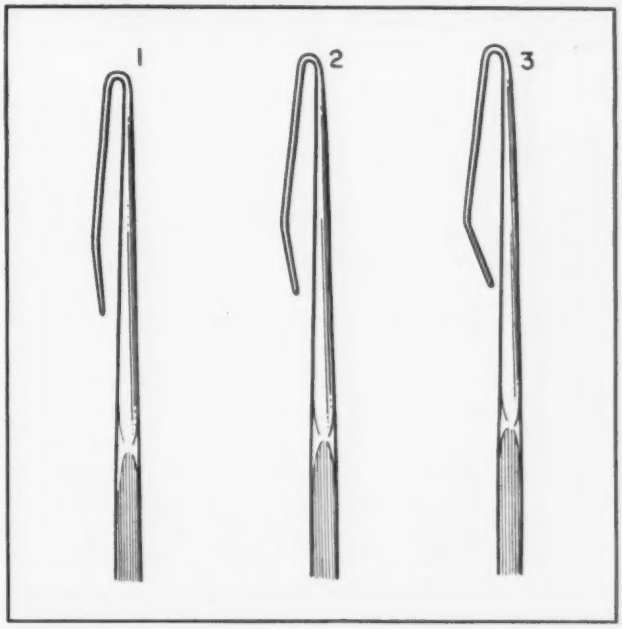
Some Causes of Needle Breakage

1. Carriers set wrong (too deep between the sinkers and dividers, carrier racks too loose).
2. Frictions too tight or too loose.
3. Bent sinker tips.
4. Bad selvages.
5. Brake band soaked with oil or too loose.
6. Clutch timing.
7. Misalignment with relation to sinkers and dividers.
8. Too much press.
9. Needle breakage in narowing caused from narrowing points out of alignment. Narrowing machine too high or too low. Narrowing cams set too soon.
10. Bad creasing in the heel. Bad inside heel selvages.
11. Accumulation of size in knock-over bits.
12. Shock absorber not properly set.
13. Speed (especially during plating).
14. Excessive draw off (especially in toe).
15. Pointex racks too loose.
16. Needle beard with too much hook.



Shape of the beard hook has much to do with the quality of the knitting that the needle does. Needle 2 has a perfectly shaped hook. Needle 1 has insufficient hook, and needle 3 has too much hook.

one of the most common causes of trouble due to catchbar jumping. These plates should be milled down at least once each year. Proper lubrication of sinkers, dividers, and jacks play an important part in good catchbar performance.

KNOCK-OVER BITS. The function of the knock-over bits is to catch the yarn as it is dropped from the noses of the sinkers and dividers when they are pulled back by the catchbar. The last knitted loops are then held in position by the knock-over bits while the needles move downward and pull the thread through the old loops and then start on their upward travel toward their orginal position, or starting point.

There are three types of knock-over-bit motions on machines today. They are: (1) vertical motion, (2) vertical and horizontal motion, and (3) arc motion. The first and last types are more predominant.

On 15- and 20-den. nylon yarns, some mills vary a little from the standard gage that is recommended to be used. In most cases, excess knockover is put on these fine-denier yarns in order to get a clear fabric. However, if fabric distortion is caused from some other point of the stitch formation, no amount of knockover will correct it.

Knock-over-bit bars should be cleaned out every two weeks in order to remove the sizing that has accumulated between the bits themselves and between the knock-over-bit bed and the bottom of the sinker head. Set the machine so that the knock-over bits are in their lowest position; then run a snapper spring between the sinker head and the knock-over-bit bar. This will clean out the accumulated sizing. A good solution should be used daily during the knitting of the welt portion to keep the accumulated sizing soft.

Needles play an important part in the making of good hosiery. They should be brought only from reputable companies, and periodical inspections should be made by the plant superintendent to determine if the needles are too soft or too hard. A record should be kept monthly of all needles issued each knitter. By this record the superintendent can easily determine the number of needles used per dozen for the month. Also, a close check on any knitter that is using too many needles per month can be made.

American System of Spinning Requires Even Wool Top

(*Continued from page 135*)

mills that have French spinning units can change over to the American system quite easily. Since long draft on the American system starts only on the roving, French spinners can retain their gilling equipment.

Cotton spinners can change over their equipment and add one gilling operation.

Bradford spinners are decidedly at a disadvantage; it would be impracticable for them to retain any machinery if they intended to introduce long draft.

A reasonable layout for a mill, now on the cotton system but changing over to the American system, would be:

1st operation, gilling

2nd operation, drawing

3rd operation, drawing

4th operation, long-draft roving

5th operation, long-draft ring spinning

If the change-over is from the French system, a good layout would be:

1st operation, gilling

2nd operation, gilling

3rd operation, gilling

4th operation, long-draft roving

5th operation, long-draft ring spinning.

The difference is in the second and third operations. It is doubtful that much difference could be found in the resulting yarn if an even top were used in both cases.

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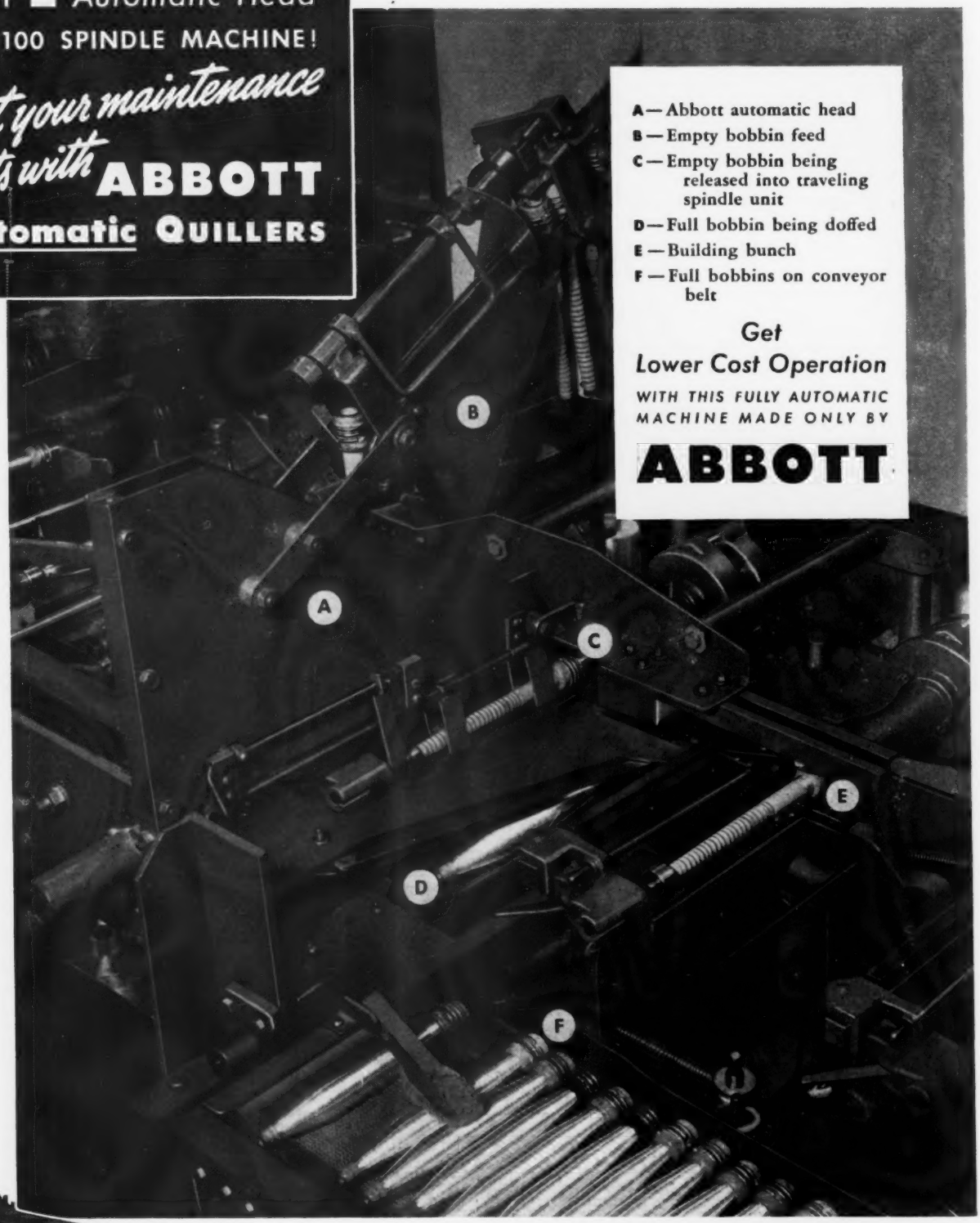
PER 100 SPINDLE MACHINE!

Cut your maintenance costs with **ABBOTT**
Automatic QUILLERS



A—Abbott automatic head
B—Empty bobbin feed
C—Empty bobbin being released into traveling spindle unit
D—Full bobbin being doffed
E—Building bunch
F—Full bobbins on conveyor belt

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WITH THIS FULLY AUTOMATIC MACHINE MADE ONLY BY
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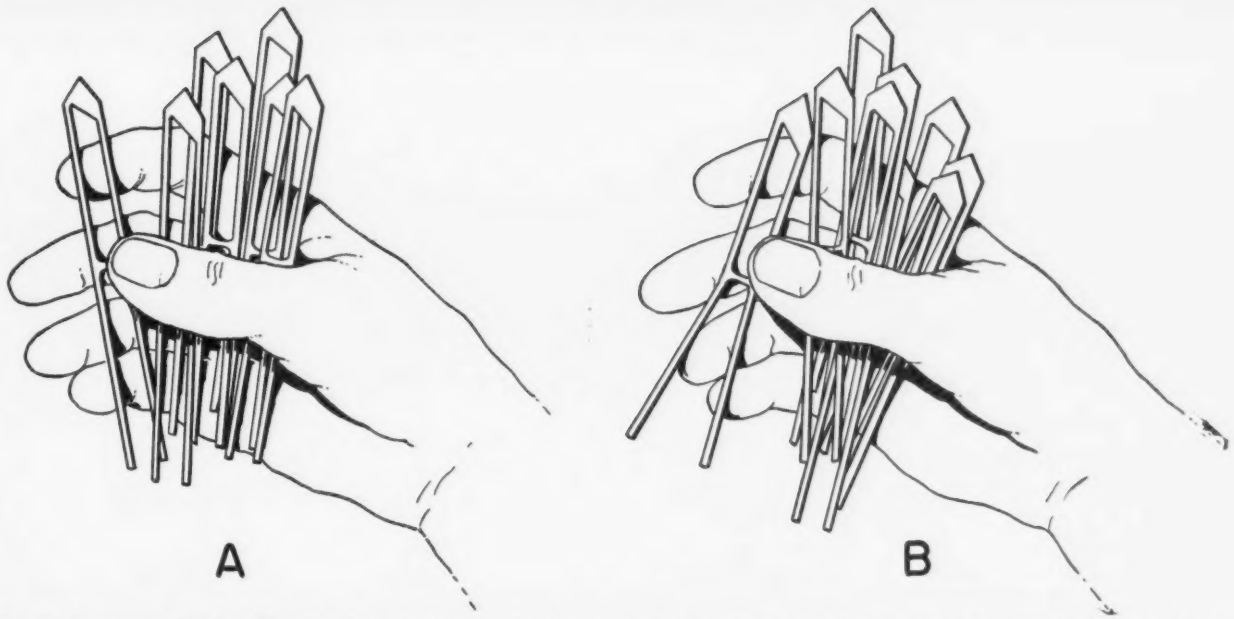


Fig. 1. ***Recommended handling*** *for drop-wire insertion involves particular finger motion as shown in positions A and B above. In A, thumb pushes individual drop-wire outward from bunch. In B, third finger spreads prong as drop is made while little finger retains bunch of wires remaining in hand.*

DROP-WIRE Application At Loom Can Be Speeded

HIGHLIGHTS: *Usual handling methods may not be fastest—Separator bars should be raised close to warp sheet—Left hand manipulates ends while right hand deposits drop-wires—Recommended procedure gives 500 to several thousand drops an hour depending on warp—Cleaning up must precede starting of loom.*

By H. E. WENRICH

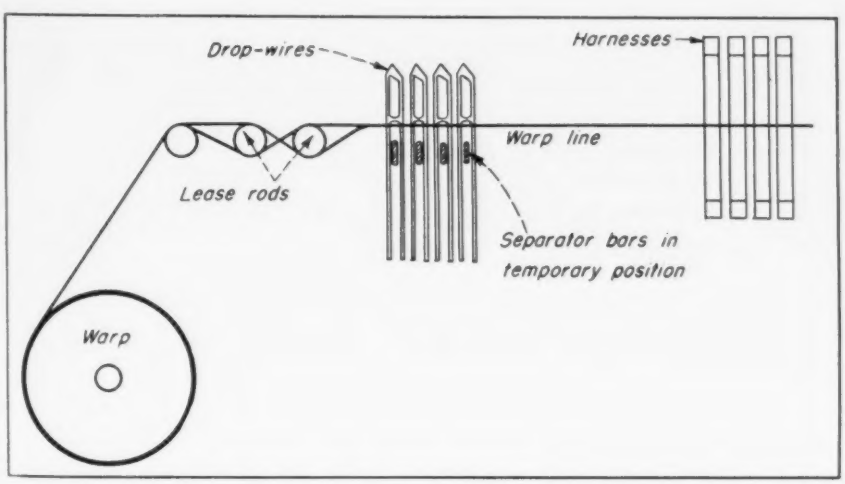


Fig. 2. ***Schematic diagram*** *shows location of essential parts involving drop-wires. After drop has been made, rods are placed in correct position and electrode bars inserted.*

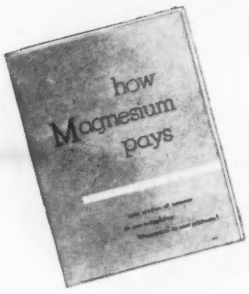
THE FIRST STEP in the usual method for dropping the wires of a warp stop motion is to mount the warp in the loom and weave a heading of approximately one yard. The loom is then shut down to await the arrival of the droppers. Some weave rooms use only one dropper on each warp; others have two droppers, one working from the center and the other coming in from the side. A third method involves two droppers also working together, but one opens the warp ends and holds an end in place as the second drops the wire over that end.

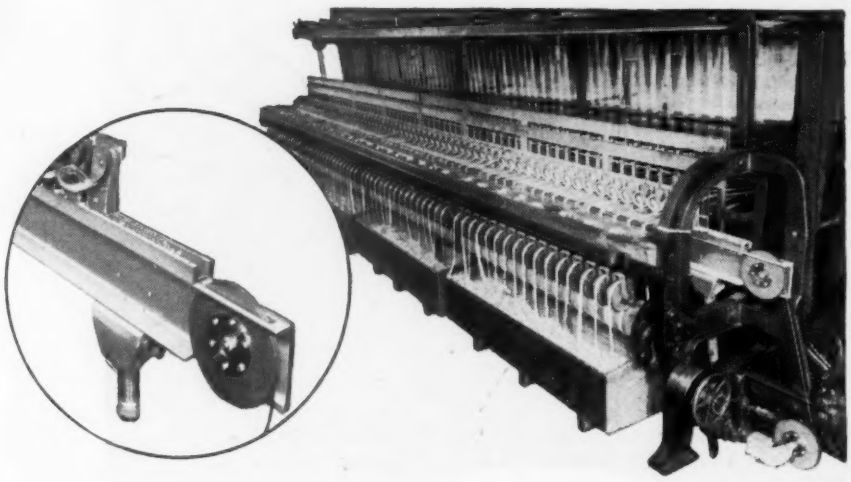
Handling methods used by droppers also vary. One method is to open several ends so there is about ½-in. spacing between them and then to drop the wires; open additional ends, and then drop wires, etc. until the warp has been completely covered. Another method is to lay the drops on a sheet of paper near one hand, open the warp yarn one or two ends at a time, and then pick up one wire and make the drop. Either of these methods is out-moded and slow.

FAST METHOD. A faster method provides that the operator should hold a bunch of drop-wires in his right hand

(Continued on page 204)

A REVEALING NEW BOOK—Here's the inside story on how manufacturers of a wide range of products have found that it pays to use magnesium. It's a book of actual case studies of successful magnesium applications—a book that will be of direct interest to you.





How Magnesium Pays

IN INDUSTRIAL MACHINERY

PROBLEM:

A manufacturer of looms knew that increased speed and ease of loom operation would increase production and decrease costs. The company's engineers believed that a re-design of the cumbersome wood and steel construction of the lay beam would solve their problem. They knew that increasing the capacity of each loom was in effect a gaining of floor space since more fabric could be woven per machine.

SOLUTION: Lay beams are now being constructed of magnesium. An extruded 5" channel 21½ feet long carries the shuttle blocks and shuttles. These blocks are supported by magnesium castings and a magnesium rail. The use of magnesium results in two important savings. First, the weight of the lay beam itself is reduced by 65% and the entire lay beam assembly, which weighed 525 pounds in wood, is reduced to 290 pounds. Second, this weight saving results in a 50% increase in loom speed. And this increased production is obtained at lower costs since the magnesium beam requires no more power at high speed than the old wood or metal beam used at lower speeds. Also, because of magnesium's lightness, the size and weight of many other parts of the machine can be reduced.

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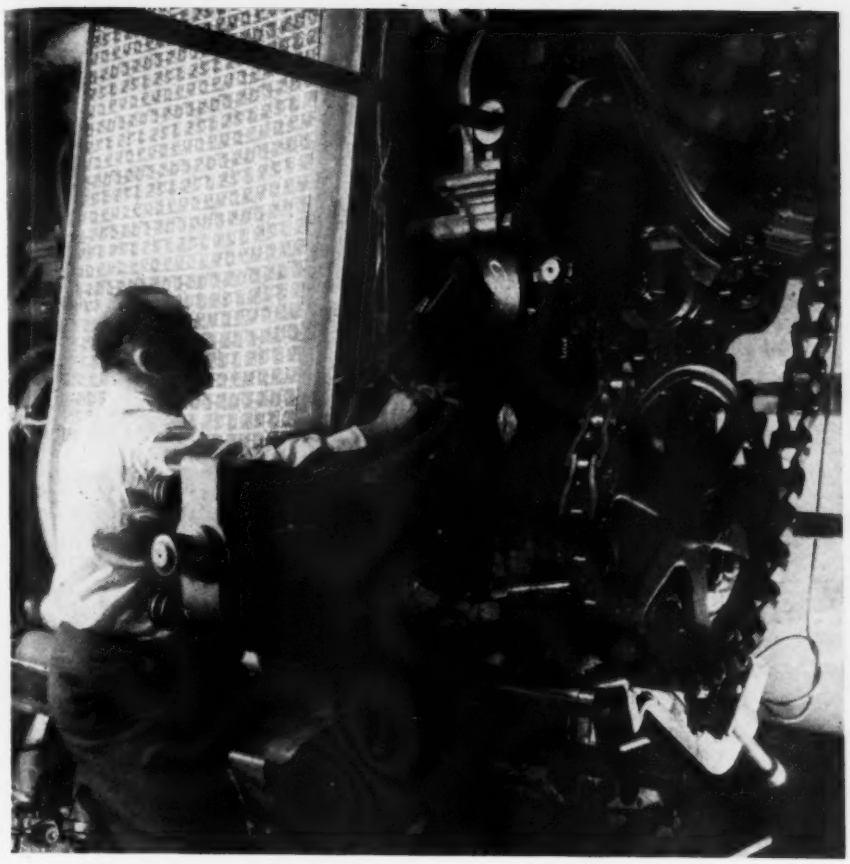

PRINTING Improved By Proper Use of Oils

HIGHLIGHTS: *Scouring, wetting, and lubricating agents needed in preparation—Simple tests can be made for stability—Roller impression a combination of pressure and suction—Oil and soap safer delustrant than phenol.*

By T. N. PATRICK

THE USE OF OILS and oil products in textile printing and finishing may be viewed from the standpoint of (1) solvent and scouring agents, (2) wetting and emulsifying agents, and (3) lubricants. These uses, in turn, may find application in cloth preparation, print-paste preparation, printing practice, and finishing.

In all, the wetting, emulsifying, and dispersing powers of sulphonated-oil products may be applied at various stages to bring about improved quality of the finished product.

In scouring, use is often made of mixtures of sulphonated oils and organic solvents for such processes as the desizing of viscose rayons and the open-kier boiling of cotton goods for improved penetration of alkaline liquors under pressure. Similar types of compounds are also used in conjunction with soap liquors for rayon and silk scouring preparatory to dyeing or printing.

Pine oils which are mixtures of terpene alcohols—steam distilled and containing up to 82% of the terpene alcohols—are used for their wetting and detergent properties. Such uses include kier boiling, rayon scouring, silk degumming, wool scouring, solvent for cotton waxes, etc.

Another useful product of this type is turkey-red oil, which is a mixture of sulphonated castor oil and terpene alcohols, or pine oil, which combines the emulsifying properties of the sulphonated oils with the good wetting power of pine oil. It is used in the production of bright alizarine reds and pinks in textile printing and has many other uses indicated by its wetting and emulsifying properties.

Sulphonated castor oils are used generally as lime-resistant wetting and detergent agents which find extensive application in preliminary bleaching processes, as already indicated. The wetting and emulsifying powers of such oils and their compounds with organic solvents also find a wide field of application in all processes of textile coloring where penetration and leveling are vital.

For instance, the use of mineral oils for many purposes which formerly were out of the question is made possible by the emulsifying properties of such compounds. Sulphonated oil products may, in fact, be looked upon as universal emulsifiers which are capable of meeting very wide and varied demands in textile-mill applications.

TESTING OILS. The stability of such oils is an important matter and may be tested by boiling a small portion in water for a few minutes and afterwards cooling. Formation of oil globules or scum will denote poor stability and inferior quality. To test for oxidation and possible rancidity, a strip of cloth saturated with normal solution of the product is exposed to intermittent atmospheric oxidation a few minutes at a time in a level temperature of 150° F. for two weeks. Yellowing and a bad odor will indicate unsuitability for textile uses. Unsuitable oils are likely to give rise to staining, yellowing, and objectionable odors during the storage of goods which have been previously treated with them.

In textile processing, the uses of such oils depend upon the fact that they are surface-active agents and bring about a reduction of the interfacial tension between the material being treated and the print-paste dye liquor or finishing agents, as the case may be. It is thought in some quarters that the leveling action exerted by such products in dyeing may be due to the better dispersion of the dyestuff. On the other hand, some opinions have it that the good results

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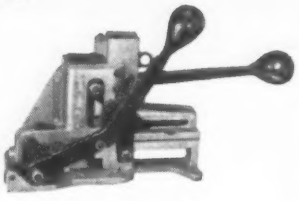

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obtained are due to the expulsion of air from the fibers with consequent improvement of wetting properties and easier access of the dyestuff particles to the interior of the fibers.

The dispersion theory has the support of experience gained in the pigment-padding processing for vat dyeing and also of many good effects produced in textile printing. It might also be argued, however, that the good properties of these products in such processes is also due to wetting-out and emulsifying powers which assist the penetration of the already-good dispersion of the dyestuffs brought about in manufacturing.

PREPARATION. The first principle in the production of quality textile prints is the thorough preparation and cleaning of the material of all natural and acquired impurities in the early stages of yarn and fabric manufacture.

In cotton-fabric preparation the main impurities to be removed are the pectins and cotton waxes (natural impurities) and starchy matters used as sizes (acquired impurities).

The first stage in processing is boiling in alkaline liquors under pressure for the breakdown and emulsification of cotton waxes, etc. It is at this stage that the powers of wetting agents and organic solvents such as have been described are most useful. The penetration of the alkaline liquors under pressure is greatly assisted, and the solvent powers of organic compounds are brought to bear on the waxy impurities, while the emulsifying powers of sulphonated oils are made use of in the subsequent removal of saponified waxes, etc. It is also claimed that by the use of such products, the amount of alkali required in boiling may be considerably reduced. Furthermore, the material is left in a much more absorbent condition for the reception of colors in dyeing and printing processes.

In the removal of starchy bodies prior to or subsequent to boiling, as the case may require, the treatment of goods with diastatic mediums such as malt extract may be required. This type of treatment is essential, for instance, in heavier spun-rayon fabrics the yarns of which have been sized with starchy bodies. The removal of starch here may be effected by circulating malt-extract liquors in open kiers at 140° to 150° F. at pH 6.6 to 6.8.

When good penetration of the desizing liquor is essential, the value of a wetting agent of the type under discussion may be realized. In addition to its value in the actual assistance of the conversion of starch into soluble dextrine, the presence of a wetting agent assists the removal of the soluble matter in the subsequent boiling-water rinses.

THEORY. The application of dyestuffs in textile printing is looked upon as localized dyeing confined to a short space of time and generally carried out under changing and unstable chemical and physical conditions. These factors point to the necessity for the removal of impurities from the fabric which would hinder in any way the union of the dyestuff with the textile fiber. It is mainly for this reason that extra care is necessary in preliminary processing and in the preparation of the goods immediately prior to printing.

The three main points to be kept in mind in printing are to have good penetration of print pastes, bright colors, and good printing impressions. All depend in a large measure upon the absorbency of the fabric.

In the original preparation, the two main factors to be aimed at are whiteness and absorbency. Increase of absorbency may be brought about immediately prior to printing by passing the goods through solutions of wetting agents such as some of the higher sulphonated oils which have already been discussed.

The main prints which require treatments of this type are fabrics which require to be well penetrated or "pushed through," such as neckwear, scarves, handkerchiefs. Penetration in all these instances is greatly assisted by extra preparation of the type suggested, no matter what class of dyestuff is being applied.

FOR MADDER PRINTS. The use of sulphonated-oil products in textile printing has been practiced since the early days of the industry when madder printing was the main vogue. Then, the uses of sulphonated castor oil and sulphonated olive oil were practiced for the production of bright madder reds, pinks, salmons, etc.

The use of the oil was not so much concerned with matters of penetration and wetting, but with the formation of the dyestuff lake by the assistance of the fatty matter in the oil which was considered to have an additional mordanting effect which brought about the formation of a better and brighter color lake in conjunction with the metallic mordants used, such as aluminum acetate, etc.

Following on this tradition of the use of sulphonated oils with mordant dyestuffs, their use also became associated with the application of chrome mordant dyestuffs. This use, however, is not always justified, because while some of the chrome mordant dyestuffs do give brighter shades in the presence of sulphonated oils, many of them react unfavorably and produce duller colors.

When extensive application of chrome mordant colors is carried out, this fact should be kept in mind; and when good penetration is essential, it may be obtained by the use of pine-oil products rather than sulphonated-oil products, so as to avoid possible dulling of some of the shades.

In printing alizarine reds and pinks in particular, the value of sulphonated-oil preparation in the production of brighter colors and good penetration is to be noted. The additional brightness of shade acquired is illustrated by the following example.

Goods which had been prepared for handkerchief printing in a tenter mangle and widened in a clip tenter afterwards showed a lightness of shade at the extreme selvages where the tenter clips had gripped the cloth, as compared with the immediate inner portions of the selvages or colored hems of the handkerchiefs which were printed in a bright alizarine pink.

The light portion at the extreme selvages corresponded with the squeezing out of the "oil prepare" by the tenter clips, thus accentuating the difference between the color lake formed in the presence of sulphonated oil as compared with that at the extreme selvages formed in the presence of a much smaller quantity of "oil prepare."

IMPRESSIONS. Good printing impressions are naturally more readily obtained on absorbent fabrics than on those whose preliminary preparation has been imperfectly carried out. In engraved-roller printing in particular, this thorough preparation for printing impressions is more than ever necessary, due to the extremely short period of contact between the color-bearing roller and the fabric.

The production of printing impressions in the latter case is considered by some to be due to a composite of the absorptive powers of the fabric plus heavy pressure exerted on the rollers, together with the penetrating powers of the print paste.

In the first place, it is thought that as the cloth passes through the nips of the printing machine air is expelled to a large extent from the interstices of the fibers by the heavy pressure of the rollers. The close contact of the engraved roller under heavy pressure brings the print paste into union with the fiber. As the cloth leaves each succeeding nip, the machine exerts a suction effect and draws the print paste from the engraving by the vacuum created during the partial expulsion of air from the fabric, as already pointed out. From these

(Continued on page 218)

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Wetting time (10 oz. Cotton Duck) after Reflux	18.4 sec.	156.9 sec.
Foaming (Ross-Miles) before Reflux	237 mm	184 mm
Foaming (Ross-Miles) after Reflux	235 mm	154 mm
Surface Tension before Reflux	29.0 dynes/cm	27.5 dynes/cm
Surface Tension after Reflux	30.0 dynes/cm	27.5 dynes/cm

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Interest ran high in a new constant-speed loom drive exhibited by J. E. Rhoads & Sons. Quick speed change and quiet operation are advantages.

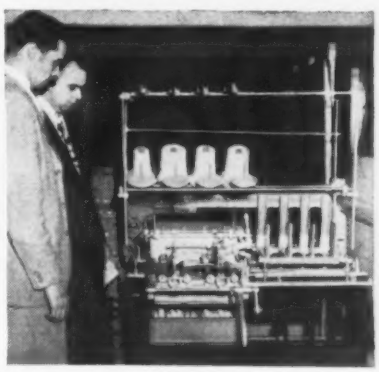
Here's What Was New At the GREENVILLE SHOW

HIGHLIGHTS:. Well over 200 exhibitors display much new and improved machinery and equipment—Centralized lubrication exhibits are attention centers — Attendance believed to break all previous records.

RECORD ATTENDANCE and a record number of exhibits marked the 15th Southern Textile Exposition in Greenville, S. C.—first in Greenville since the war. Some new equipment and many new improvements and products were shown for the first time. Interest ran high in exhibits of manual and automatic centralized lubricating systems; the Hunt looms and parts for reconditioning; the spinning frame reconditioned by Meadows Mfg. Co.; materials-handling equipment of various types; and the clever, if not technical, electric-train exhibit of National Ring Traveler Co. In this report TEXTILE WORLD covers only new or improved equipment shown for the first time.

YARN-MANUFACTURING EQUIPMENT. A new plastic spindle adapter was featured by National Plastics, Inc., Knoxville, Tenn. Economy of first cost and operation were said to be the chief advantages. The lightweight adapter blade is made of a special plastic molded to either old or new spindles.

The first model of an automatic filling winder derived from the Hacoba 4-spindle machine was featured by Kanoy Machine Co., Charlotte, N. C. Winding speed of the machine was said to be 5,800 rpm. The Kanoy company was said to have improved the gearing and other parts of the winder and to have changed the metric standards used on the Continental Hacoba



The new filling winder made by Kanoy Machine Co. is shown by Mr. Kanoy, left, to TEXTILE WORLD'S assistant editor, William A. Newell.

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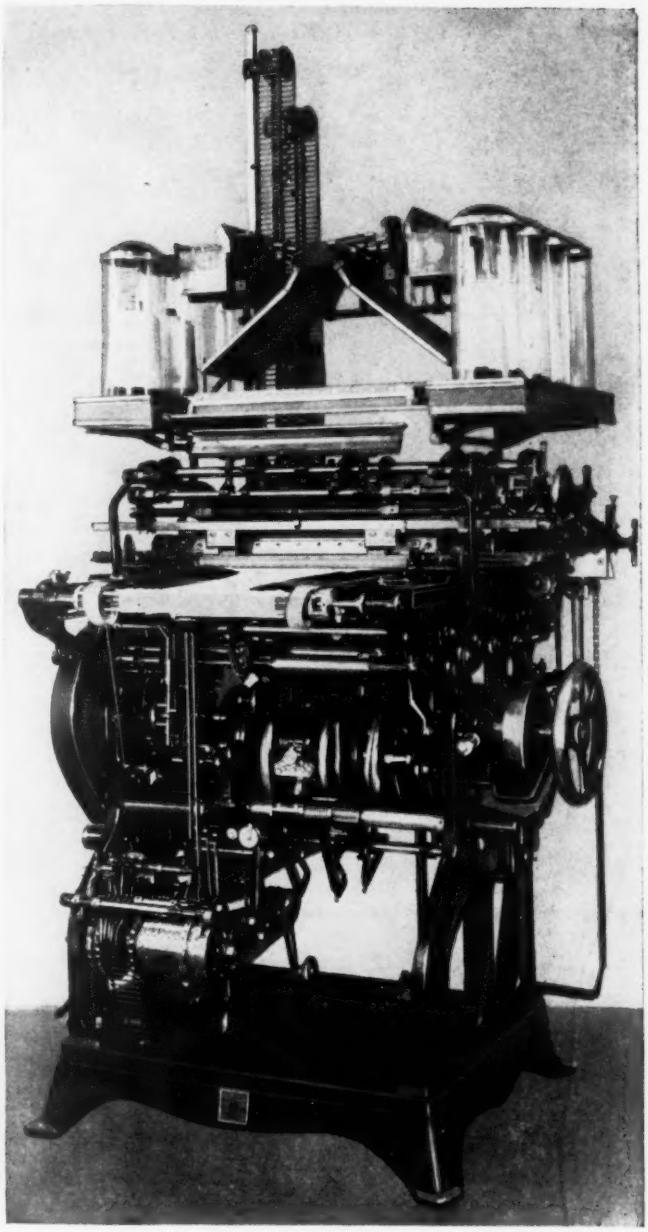

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A packaged card drive that mounts on the card frame and which has a 300% starting torque was shown by Greenville Textile Supply Co.

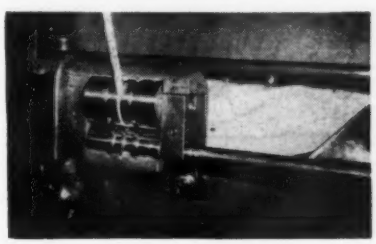
model to the English standard. The winder has four complete spindle units for four packages which are driven in pairs, with one traverse bar for two spindles.

Simplified blending of synthetic fibers was offered by the Lummus synthetic-blending unit in the exhibit of Aldrich Machine Works, Greenwood, S. C. The machine was said to eliminate the need for floor or bin mixers. The recommended layout was one blending unit placed parallel to each single-process picker. The stock would be weighed out and fed to the blending unit and not handled again until it emerged from the picker as a finished lap.

A new heavy-duty buffing machine for synthetic and cork covers [TW, Sept. '48, p. 143] was shown by Armstrong Cork Co., Lancaster, Pa.

A new type "SE" roll cover, said to eliminate "eyebrowing" and to be effective on either synthetics or cotton, was exhibited by Dayton Rubber Co., Dayton, Ohio. Also shown was a new grinder and the new type "SE" cover for flat clearers.

A direct drive for cards from an easily applied package unit which uses a special motor and speed reducing unit was shown by Greenville Textile Supply and Odell Textile Supply Co., Greensboro, N. C. A semi-high-speed motor was designed by Louis Allis Co.

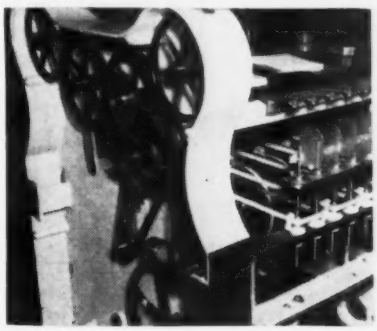


Card-calender rolls for compressing sliver by means of a groove in the top roll and a tongue in the bottom roll were shown by Atlanta Machine Works.

with a starting torque of 300%. The motor fits a special bracket mounted to the card sides. From a V-belt drive, the shaft extends to a speed-reducing unit for reversing the motion during grinding. A sheave extension is provided for stripping. The package-unit card drive was made by American Pulley Co., Philadelphia, Pa., aside from the motor and controls.

The new Slixonice bearing insert on a new saddle for spinning frames was shown by Dixon Lubricating Saddle Co., Bristol, R. I. The removable bearings are made of nylon, and their use is said to eliminate the need for lubrication. Two types were shown: saddle A for long-draft rolls, and saddle B for conventional and unweighted middle-roll assemblies. Slixonice cap-bar nebs were also shown.

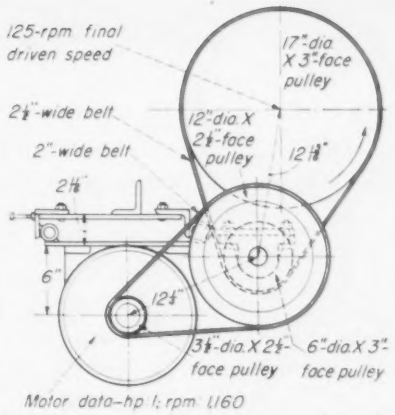
An aluminum tension pulley by SKF Industries, Inc., Philadelphia, Pa., utilizes an antifriction bearing on a stationary shaft. The shaft is mounted in supporting blocks which replace the oiled-wood bearings generally used. The new pulleys operate without gathering lint due largely to the construction and a thread guard.



Drive pulleys replaced the cylinder on this spinning frame rebuilt by Meadows Mfg. Co.

A section of a rebuilt spinning frame converted from band drive to individual-pulley tape drive was featured by Meadows Mfg. Co., Atlanta, Ga. Beside the drive pulleys that replaced the conventional spinning cylinder, other important points of the conversion job included ball-bearing tape tension pulleys; lightweight, solid separators; a chain drive for the drive pulley shaft; and ball-bearing mounts for the shaft. Advantages claimed for the reconditioning job include fewer ends down, smoother operation, more uniform twist and wind, and elimination of cylinder and head trouble.

A spinning-roll saddle that requires no lubrication was also featured. The saddle consists of a die-cast-aluminum body with treated-wood bearing areas to fit the roll arbors. The bearing material is impregnated with oil. Meadows reported that accelerated wear tests indicate that the bearing material will



The new constant-speed loom drive by Rhoads consists of a pivoted motor base and pulley, two intermediate pulleys, and belts.

wear about ⅛ in. in five years of normal running. The aluminum body of the saddle guards against scoring of the roll arbors. If the bearing material should wear until the body of the saddle touches the arbor, the softer aluminum will absorb wear that takes place.

A ball-bearing card comb box and a ball-bearing off-end stand that supports the opposite end of the comb were shown by Southern States Equipment Corp., Hampton, Ga. The box is equipped with a crank driven from the comb-box pulley; the drive is transmitted to a rocker arm that causes 1¼-in. oscillation of the comb blade. The off-end stand contains a sealed cartridge unit that has an extended inner race. Bore of the unit accommodates the ¾-in. off-end of the comb shaft.

A ball-bearing comb box in models for cotton and wool cards was featured by Odom Machine Mfg. Corp., Roswell, Ga. The box operates through a cam, cam-throw arm, and rocker arm. All moving parts operate in sealed ball bearings to guard against lint and dust entering them. Grease reservoirs in the hub and cam-throw arm hold a three months' supply of lubricant.

PREPARATION AND WEAVING. Quick and easy changing of loom speeds as well as quieter operation with less shock and vibration are advantages claimed for a new loom drive shown by J. E. Rhoads & Sons, Philadelphia 6, Pa. The drive consists of a new double-pivoted Rockwood motor base, a motor pulley, motor belt, two intermediate shaft pulleys, and a loom belt. Constant belt tension is produced by the double-reduction pivoted motor drive.

A new high-speed controlled-density warper for cotton or synthetic yarns shown by Allen Co., New Bedford, Mass., drew much attention. Uniform yarn density on the beam during the beam build up is accomplished by hy-

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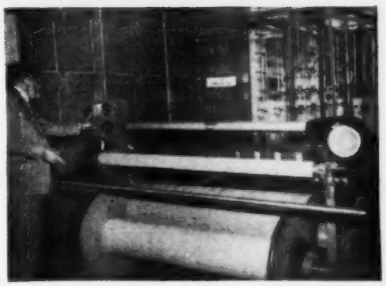


Uniform yarn density from start to end of wind is accomplished hydraulically over a wide range of pressures on this new Allen warper.

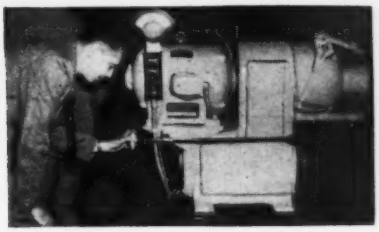
draulic cylinders which control the pressure between the beam and cylinder at all times. The pressure is fingertip controlled with a differential from 0 to 1000 psi. of surface contact of the yarn against the drum. Other features of this machine are a 4-to-1 range of yarn speed with push-button control, a high-speed blower unit with tube extending the entire width of the machine used for cleaning lint from the combs, a control panel consisting of a tachometer registering yards per minute, a counter giving total yards, a pressure gage showing total pressure applied by the hydraulic system, a lever for positioning in a running or doffing position, and a remote-control valve for controlling beam pressure desired.

A slasher-yarn lubricating unit that applies yarn lubricant (Slix) to warp yarn between the size box and cylinder of a slasher was shown by Southern Sizing Co., Atlanta, Ga. The use of the fatty or waxy lubricating material is said to reduce warp and filling stops during weaving.

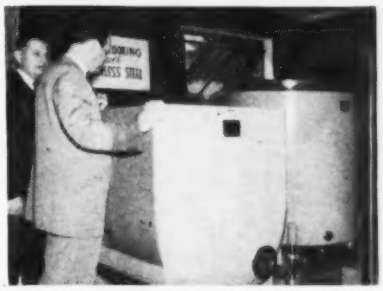
Improvements to the Niagara twist setter for conditioning filling were featured by Seydel-Wooley & Co., Atlanta, Ga. The machine is equipped with a new pressure gage to indicate the efficient working of the conditioning-fluid pump. Redesigned grids that insure smoother flow of filling bobbins through the machine, a weighted adjustable door, and additional filter capacity over the pump-intake pipe are other new features of the machine.

Moisture may be quickly measured at any point by this portable tester shown by Buensod-Stacy, Inc.

A new slasher main drive designed for compactness was shown by Reeves Pulley Co., Columbus, Ind. The drive is a mechanical variable-speed unit that provides the range of speed needed for starting, running, and stopping the slasher for efficient operation. The drive is hydraulically controlled.



A mechanical variable-speed drive specially designed for slashers was shown by Reeves Pulley Co.

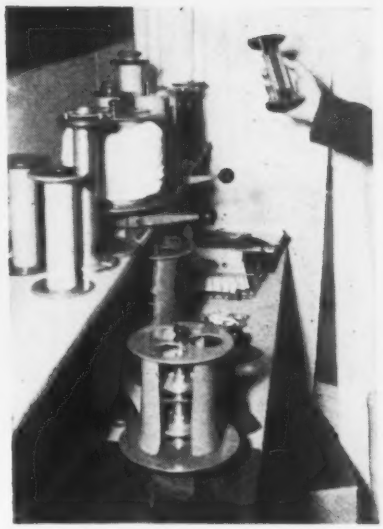


Glass-lined size-cooking and storage kettles are shown to TEXTILE WORLD'S editor, C. W. Bendigo (left), by Julian W. Cox at the Metal Glass Co. exhibit.

Size cooking and storage kettles of stainless steel and of modern design are being introduced to the textile industry by Metal-Glass Products Co., Belding, Mich. The kettles are adapted from the food-processing industry but are especially suitable for textile use. A jacketed cooking kettle is equipped with overlapping rotary wipers to keep size from sticking. Storage kettles, also jacketed, have propeller-type agitators built into them. Those described are insulated. They can have painted or stainless-steel exteriors.

An integrated soaking system was demonstrated by Fletcher Works, Philadelphia, Pa. The complete system includes a make-up tank, soaking tanks, extractor, and return piping. Cake or skein yarn is packed in baskets in which it is both soaked and extracted. Over 50 lb. of yarn can be soaked in 50 gal. of solution. Extractor speed has been slowed down to insure more uniform liquid content in the yarn.

Spreader-equipped looms for cotton and rayon were shown in cloth widths up to 60 in. by Hunt Machine Works, Inc., Greenville, S. C. The model HX-100 rayon loom has 26-in. beam heads, Bartlett let-off, 6-bank electric stop motion, 1-hp. motor, dobby harness motion, and other features. The model HX-1, designed for cotton fabrics, was said to be available with several types of let-off motions, whiprolls, and quill lengths. Looms were displayed mounted on Unisorb pads.



Cutaway of new bobbin by Plasticbilt reveals aluminum and plastic construction. It holds 1 lb. of yarn.

A new ball thrust bearing for looms was said to save power, require less friction, provide better starting of the loom, and need less loomfixing. The bearing was shown by Columbia Supply Co., Columbia, S. C.

A new surface-driven tachometer for all types of finishing equipment is provided by the Jones Tachometer shown by Durant Mfg. Co., Milwaukee, Wis. Chief advantage of the new tachometer: It is possible to use it even if its rolls have to be recovered or replaced.

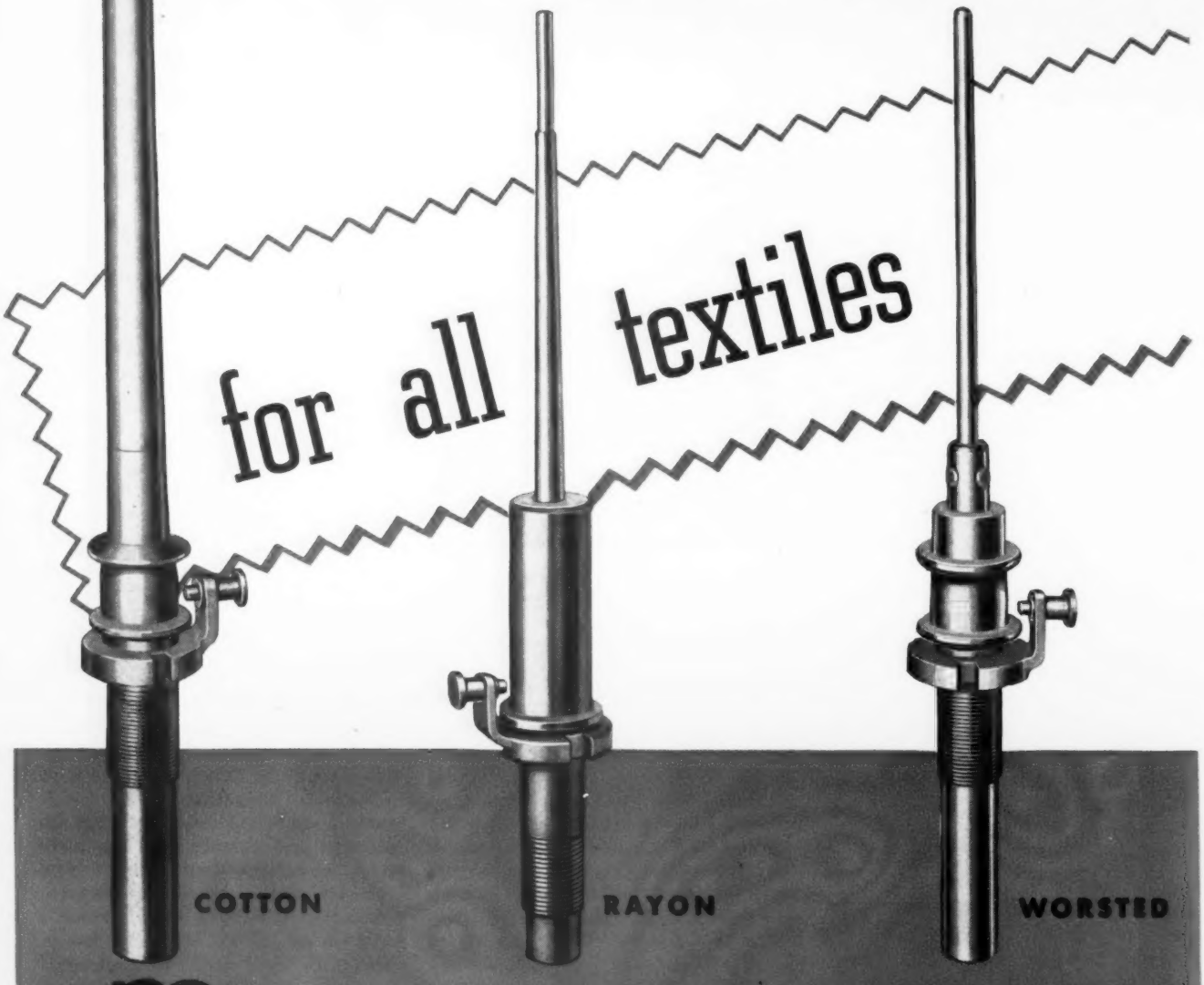
Accurate measurement of loom-motor circuits and resulting better adjustment and operation of the loom were advantages found in a new ammeter shown by Russel Ranson, Charlotte, N. C. The ammeter was a Weston model 932 portable instrument with three ranges of current: 1, 2, and 5 amp. The instrument measures pulsating currents found in the loom-motor circuits during operation. An accuracy of better than 1% was claimed.

FINISHING EQUIPMENT. Largest exhibit of finishing equipment was by Smith-Drum & Co., Philadelphia, Pa. The company's full line of package and beam dyeing and handling equipment was shown.

A compact new bowed-filling straightener which eliminates filling-wise bow without undue strain on the

Marquette

ROLLER BEARING SPINDLES
with FULL-FLOATING FOOTSTEP BEARING



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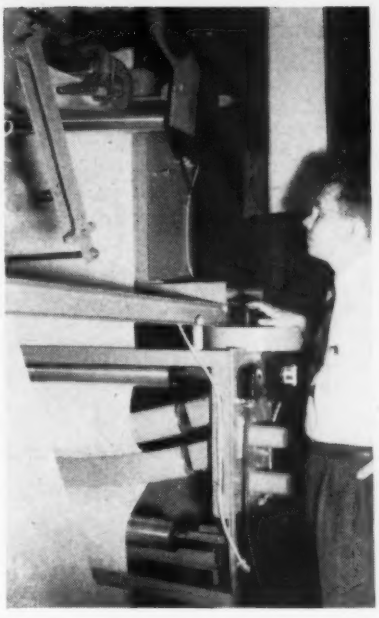


Both skew and bow in filling may be removed by equipment shown by Mount Hope Machinery Co. Skewed-filling straightener is at top, bowed-filling straightener is below.

cloth was the center of attention at the display of cloth-handling devices of Mount Hope Machinery Co., Taunton, Mass.

The unit consists of two 4-in.-diameter brass ball-bearing guide rolls over which cloth passes as it enters and leaves the device. Between these two guide rolls are located two free-wheeling expanders with their mountings geared together so that the mountings with their bowed axles can be oscillated in opposite directions by a small electric motor.

The cloth travel through the combination of the four rolls can be made longer or shorter at the middle of the cloth than at the selvages by manually oscillating the expander's two mountings. For example, if the bow happens to be ahead in the middle of the cloth, the expanders are adjusted to provide a longer path of travel in the middle of the cloth width than at the selvages, thus causing the selvage to catch up with the middle.

Also shown for the first time was the Mount Hope continuous-roll feed. The feed automatically stops when the end of a cloth roll is reached, thus eliminating danger of having to rethread. Cloth level in the scray is also automatically maintained.

A newly designed high-speed tenter frame with a fully inclosed delivery end to prevent dirty cloth was shown by Marshall & Williams Corp., Providence 5, R. I. The tenter has a heavy welded construction that lends strength and rigidity. Anti-friction bearings are used throughout for longer life and lower power consumption. A new type of rail-expansion joint prevents strain on floor stands and machine foundations. An automatic chain-tightening device holds even tension on the tenter chain under all conditions. An electric-eye cloth guider for accurate feeding is designed to be unaffected by machine vibration. Speeds possible are said to be up to 250 yd. per min. The chains are so constructed that the drive sprocket and idlers touch only the roller links, not the body of the clips—a feature said to insure quiet operation and long life.

In one textile plant, a heat exchanger in one year paid for almost its entire cost, according to the Sims Co., Erie, Pa., which exhibited a large, textile-type unit. A hinged front cover can easily be opened for cleaning and for inspection. Stainless or other corrosion-resisting metals are recommended.

Streamlining and effective use of stainless steel were evident in extractors such as the 30-in. Minute Man and the 48-in. Suprex models shown by Tolhurst Div., American Machine & Metals, Inc., East Moline, Ill.

Starch-cooking equipment for continuous processing in applying backfill and printing gum was shown by The Girdler Corp., Louisville, Ky. The Votator equipment contains a starch-cooking chamber that quickly brings starch up to 180 to 200° F. It can handle from ¾ to 6 lb. of solids per gallons of finished paste. Pumping through the closed system is done by a duplex piston pump.

A new contact-type cloth guider for accurate feeding of cloth to tenters was shown by Winsor & Jerauld Mfg. Co., Providence, R. I. The electrical circuit employed in starting, moving, and stopping the motors controlling the motion of the rails is said to preclude inaccuracies or "hunting." Precise stopping is obtained electrically in the control of the motor.

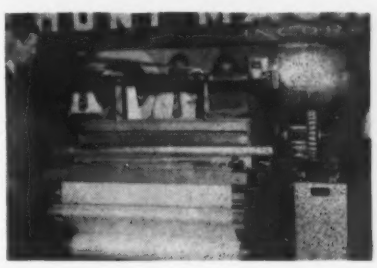
OTHER EQUIPMENT AND SUPPLIES. Bearings made of a new asbestos and graphite composition were exhibited by Johns-Manville Corp., New York, N. Y. Advantages are long wear, resistance to heat, and elimination of lubrication. The compound can be formed into almost any size or shape. Typical uses shown were: cap-bar tips, tension-tape-idler bearings, top-roll bearings, whip-roll bearings, spinning-frame-saddle inserts, bottom-roll-stand inserts, cloth-roll bearings, slubber-stand inserts, tapered lift-rod bushings, and others for spinning and weaving equipment.

Centralized one-shot lubrication of bearings in the drive end of a spinning frame was shown by Bijur Lubricating Corp., Long Island City, N. Y. A small display also showed the operation of the newer automatic centralized lubrication which eliminates the human element from lubrication almost entirely.

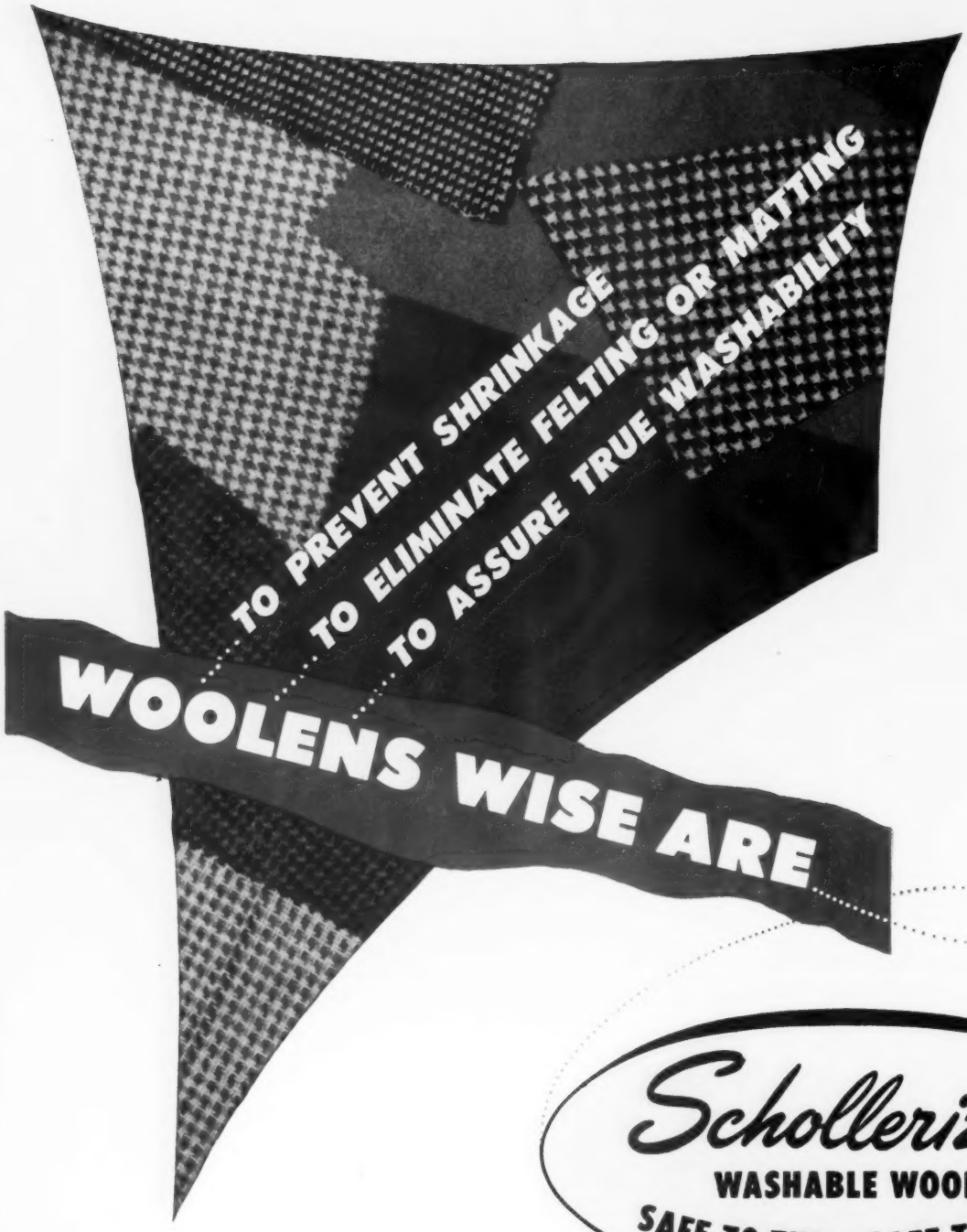
Travelers may be picked up from floors by this bar magnet on wheels shown by G. H. Tennant Co., Minneapolis, Minn. Nine Alnico permanent magnets, 18 in. wide, are mounted on 2¼-in. wheels which permit sweeping under machines.

Centralized-lubrication systems that deliver measured amounts of lubricant to a number of bearings from one supply point were demonstrated by Alemite Div., Stewart-Warner Corp., Chicago, Ill. A system of lubricating lines are installed on a machine, with valve outlets for each bearing to be lubricated. A pump, operated at the intake point of the system, forces lubricant through the system until each valve discharges a measured amount of grease. An indicator at the intake point signals the operator when lubrication is completed. The system can be applied to practically all textile machines.

Mildew-resistant paint—for use on walls, ducts, and other inside applications where high humidity causes paint and adhering lint to mildew—was featured by Gilman Paint & Varnish Co., Chattanooga, Tenn. Photographs of an overhead duct in a mill illustrated



Several looms for cotton and rayon weaving, all made with Hunt's spreader and other parts, were shown by Hunt Machine Works, Inc.



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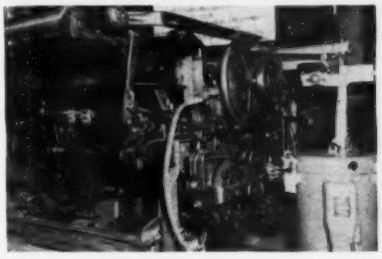
the effectiveness of the mildew inhibitor. Sections of the duct painted with ordinary interior paint mildewed badly. Sections said to be painted with 154 Gillite Millwhite significantly resisted mildew.

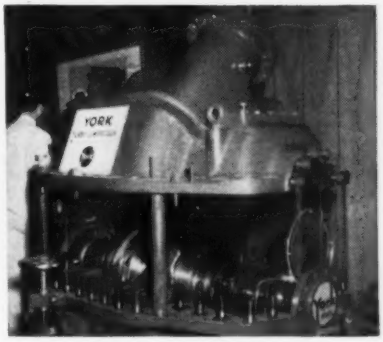
Lubrication of several bearings from a central point through a line of tubing arranged in a circuit was demonstrated by Trabon Engineering Corp., Cleveland, Ohio. The system is operated from a manual or power pump which forces lubricant through the line to the feeders located at the bearings to be lubricated. A measured amount of lubricant passes from the inclosed feeder to the bearing.



How to oil a loom by automatic lubricant dispensers was demonstrated by Lincoln Engineering Co.

The Centromatic lubricating system, described as an automatic single-line system, was installed on a loom and demonstrated by Lincoln Engineering Co., St. Louis, Mo. Grease or oil from a supply container is pumped through the system by an electric pumping unit. Adjustments are provided for controlling the amount of lubricant dispensed by each injector. The frequency of lubricating is controlled through a time clock in the control panel at any desired frequency from 3 min. to 4 hr.

The new Bullneck grease fitting designed with the check ball flush with the top of the oil channel was also shown by Lincoln. Advantages claimed for the fitting include better control of what goes into the bearing. The fitting is said to keep dirt out and grease in.



An inside look at a refrigerating turbo-compressor was shown at the York Corp. exhibit.

A cut-away turbo-compressor demonstration by York Corp., York, Pa., showed how the compressor works in a refrigeration unit, such as used in air conditioning. "A new kind of ice" was the description given York's Flak Ice machine which was in continuous operation during the show. It produced flakes of ice constantly from city water. Cost of ice was reported as little as 6¢ per 100 lb. Cost of ice cubes was stated as being as little as 15¢ per 100 lb. in a York machine.

A new all-electronic moisture controller for slashers was shown by Brown Instrument Co.

New high-speed measurement and control of moisture content in textile materials in process is made possible by an all-electronic device shown by Brown Instrument Co., Philadelphia, Pa. The new all-electronic Moist-O-Graph measures moisture content by electrical conductivity. It consists of a transmitter unit incorporating a measuring circuit and a recorder with the control mechanism. The recorder is the Brown electronic continuous-balance potentiometer. The recorder can be separated from the transmitter by a considerable distance. Neither require special precautions or protection in mounting.

In addition to the electrical control action of the present Moist-O-Graph, the new instrument is available with a wide variety of pneumatic or electric control actions including proportioning and proportioning-plus-reset forms. The new model incorporates all the features of its predecessor, including a scale calibrated from 4 to 12% regain for cotton, and is highly flexible and more versatile than the earlier model.

Up to 30 changes of air per hour was obtained from the Rihco simplified air-conditioning system according to its exhibitors, Aldrich Machine Works, Greenwood, S. C. The system propels air only through the ducts and moisture through atomizers located directly on top of the fresh-air duct. The relatively small ducts are individually controlled. They introduce normal outside air without the use of washer rooms.

A two-man washfountain for convenient installation in departments where clean hands are a "must" was shown by Bradley Washfountain Co., 2203 W. Michigan St., Milwaukee 1, Wis. Water flow is controlled by foot pressure, and temperature is controlled by a mixing valve. Temperature of water may be varied by turning the knob on the machine front.

A new inverted bucket-type steam trap, No. 60, was said to simplify piping arrangement, to provide a free-swinging and self-aligning disk, and a pressed-in seat that cuts maintenance costs by eliminating the rusting-out of threads. It was shown by The Clark Mfg. Co., Cleveland, Ohio.

New lighting fixtures made by Fletcher Reflector Co. were shown by the distributor, Odell Supply Co., Greensboro, N. C. Peaked top channels of a design originated by Borden Mills, Kingsport, Tenn., were introduced in special textile-type fluorescent fixtures. The peaked tops are designed to prevent accumulation of fly, lint, dust, and moisture.

Lightweight pneumatic handling was demonstrated by Oliver Landis, Charlotte, N. C., in a new Keller hoist that weighs 30 lb., has a lifting speed of 17 lb. per min. The housing is one-piece, heat-treated aluminum, and the capacity of the hoist is from 300 to 1,000 lb.

Quick spot checks of humidity to detect possible stratification of moisture is made possible by an improved indicator shown by a Weston Electrical Instrument Corp. distributor, Russell Ranson, Charlotte, N. C. The portable indicator is 5x4¼x6⅛ in., weighs 1¼ lb. It operates on the wet-and-dry bulb principle.

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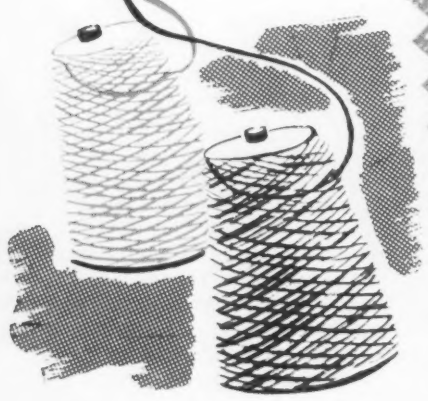

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made on a single chart by the new multi-record Dynalog exhibited by Foxboro Co., Foxboro, Mass. The instrument is particularly applicable to dryers, calenders, air-conditioning systems, etc. Six variables are each recorded in one of six different colors every six seconds. A minimum of moving parts and no slide wire are said to reduce maintenance.

A new "d/p" instrument for measurement of flow, level, and differential pressure was also shown by Foxboro. The unit is quite compact—4x4x9 in., and light—20 lb., making it easier to install. Zero displacement, except in the most unusual cases, eliminates the need for seals, purges, or condensing chambers. No mercury is used, and no material other than Type 316 stainless steel comes in contact with the fluid being measured. Positive over-range protection is provided up to 1,500 lb. Changes up to plus or minus 30% of differential may be made with a small field adjustment; greater change requires only the substitution of the proper torque tube and bellows.

A cost-saving system of rewinding steel-wool drums for floor dry cleaning was described by representatives of Selig Co., Atlanta, Ga. The drums are said to be used up when about ¼ in. of steel wool has been worn off. A narrow ribbon of steel wool is supplied by the company for "retreading" the drum for further use. Cost of steel wool drums is said to be reduced by about 50%.

A new multiple-printing machine for simultaneous posting of ledger, journal, and statement was shown by Burroughs Adding Machine Co., Detroit 32, Mich. The new office machine automatically repeat-prints on both ledger and statement every item that the operator enters on the journal. The printing is done as the carriage moves. The carriage does not pause in each printing position, as with other machines. Thus, machine speed has been greatly accelerated.

A calculating-billing machine also shown by Burroughs combines the operation of calculating, writing, and machine checking into a single operation permitting visual checking of quantities and prices.

A new fully inclosed motor for sewing machines had sealed ball-bearings, convenient plug-in receptacles, quick V-belt release, and a duo-throw switch to operate the motor clockwise or counter-clockwise. The duo-switch substitutes mechanical renewing action for electrical and has a safety stop to prevent the operator from reversing the motor once it is properly set. The quick belt release is a patented feature that is said to reduce downtime for belt changeovers or cleaning. The motor made by American Safety Table Co., was shown by Hallister Moreland Co., Inc., Spartanburg, S. C.

Plastics and aluminum replacing wood in bobbins were evident in the products of Allentown Bobbin Works, Allentown, Pa., Lestershire Spool & Mfg. Co., Johnson City, N. Y., and Plasticbilt Corp., Greenville, S. C. The uniformity of plastics, compared to wood, and resistance to crushing were featured in the new bobbins. A new 1-lb. Lestershire steaming spool has all-aluminum construction, except for ferrules. It, and many others, had provisions for transfer tails.

A lightweight aluminum roving truck and tote box were among many textile items at the Aluminum Co. of America exhibit.

Many aluminum products were shown; one new use was as a frame for screen printing. Lightweight roving trucks, tote boxes, spools, beam barrels, and cloth rolls—as well as many extrusions and other shapes—were featured by aluminum suppliers: Aluminum Co. of America, Pittsburgh, Pa., and Reynolds Metals Co., Louisville, Ky. The latter company showed the Emmons Draw-Tex aluminum harness frame.

An aluminum bobbin for bobbin-charging looms was displayed by Hubbard Spool Co. Also shown were aluminum picker sticks in two styles and a large line of spools and beams.

Eveness of sliver, roving, or yarn may be tested on the machine being demonstrated by A. Schuler, left, Uster Corp., to C. Mallard Bowden, TEXTILE WORLD'S Southern Editor.

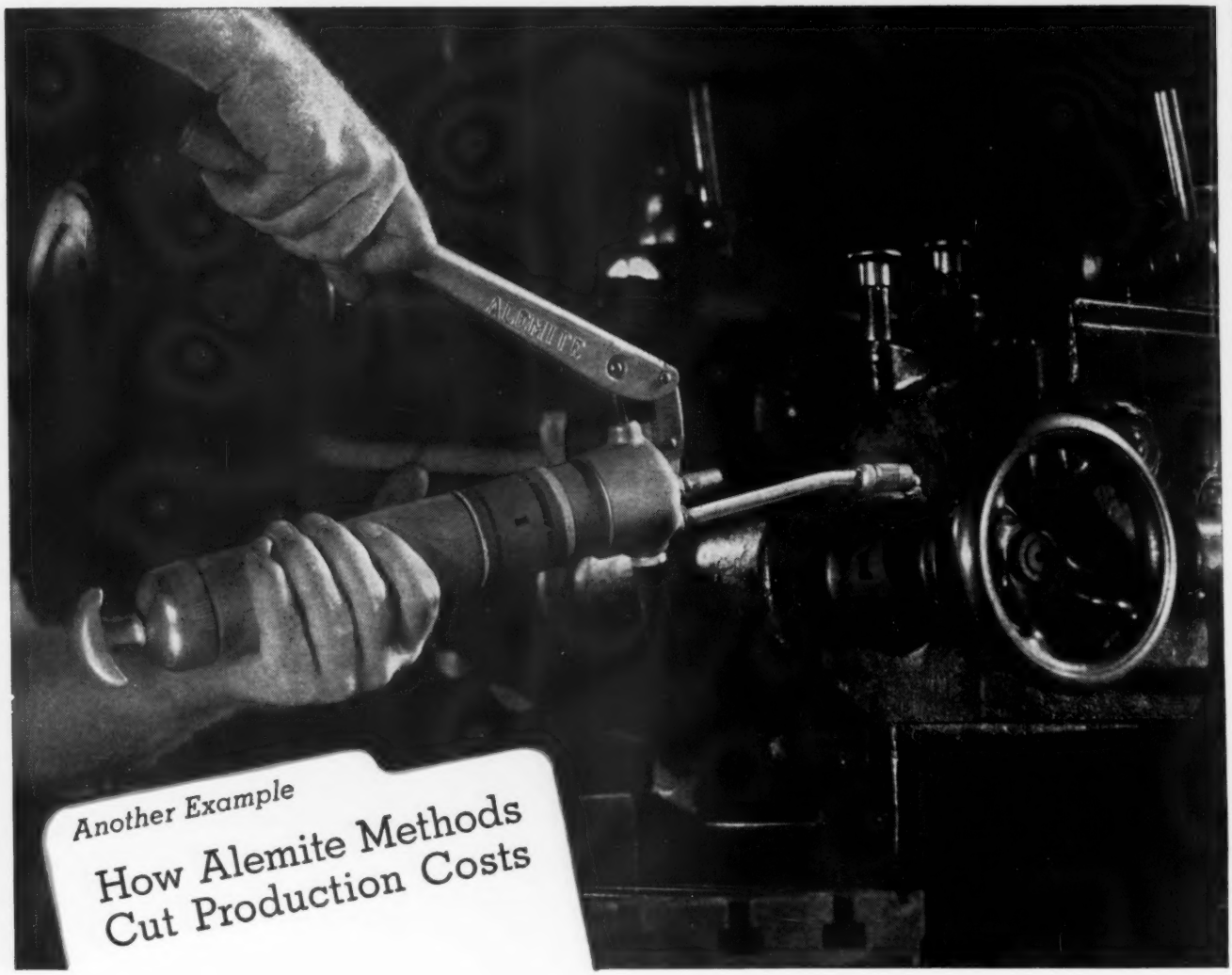
A tension meter by Uster was shown for the first time at the show by Uster Corp., Charlotte, N. C. Other Uster equipment on demonstration were the yarn, sliver, and roving evenness tester; the Little Uster warp tying machine; and a reaching-in unit mounted with a denting machine. Several new Pneumafil installations were illustrated in photo-murals.

A lint-free motor featuring streamlined windings was shown by Westinghouse Electric Co., Pittsburgh, Pa. The company also demonstrated a "Switchgear" unit with a drawout air circuit breaker. The "Switchgear" is completely enclosed in a self-supporting metal housing. Ten basic units are available for 600-v. switching.

A compact variable-speed drive which has no mechanical contact between driving and driven members was shown by Louis Allis Co.

A new, compact, a.-c., variable-speed drive, operating on a different principle, was effectively demonstrated by the Louis Allis Co., Milwaukee, Wis. It transmits controllable torque over a stepless range of speeds from zero up by the use of electro-magnetic forces. There is no mechanical contact between driving and driven members. Operation and control is through an electronic panel involving $28 worth of easily replaceable tubes. The device is called an Adjusto-Speed drive and can utilize an eddy-current brake if desired.

A dilution recorder-controller which automatically blends liquids in any given proportions was shown by Fischer & Porter Co., Hatboro, Pa. The company also showed an automatic batch-control system which adds given amounts of fluid in desired quantities and at any rate and time wanted. The instrument can be custom built to handle any particular corrosive fluid. A continuous viscosimeter shown by the company is useful in slashing and single-end nylon sizing for indicating, recording, and controlling size viscosity. A new Ratosight alarm which can cut off power in many applications was shown for the first time.



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MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

TEXTILE Equipment NEWS

Centrifugal Spinner Doffs Semi-Automatically

A new centrifugal-spinning system, designated P.S.C., said to handle all fibers, has been developed by Prince-Smith & Stells, Ltd., of Great Britain, according to Atkinson, Haserick & Co., Boston 6, Mass., sole agents for the manufacturer. The principle has also been applied to a twisting and a roving frame. The new system doffs semi-automatically by rewinding onto bobbins and eliminates the problem of the collapsing package which has stymied previous centrifugal-spinning efforts. All qualities, counts, and types of yarn can be produced on the machine, the manufacturer states.

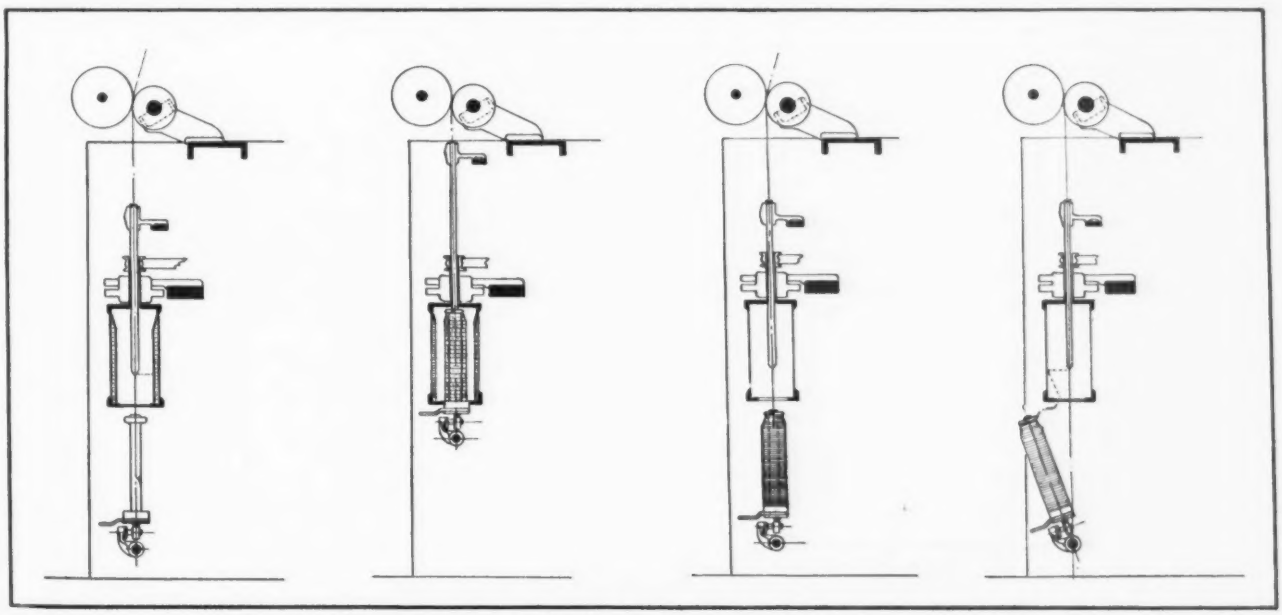
The end is passed through the roll-drafting zone and through traversing tubes to the inside of the spinning container into which it is wound, with a light drag, by means of centrifugal force. The build within the container is formed by the usual heart cam and is reproduced when the yarn is transferred to the stationary bobbin in doffing. Twist is inserted as the yarn is rotated upon its own axis by the revolving spinning container. The complete absence of balloon, bobbin drag, etc., is said to permit spinning with less twist, giving an increase in production in addition to that due to higher speeds. The nip of the front rolls and the entire drafting system is in a vertical line with the center of the container, dispensing with any "lay-on" on the face of the lower roller. Thus, the twist runs upward into the nip, twisting the fibers immediately as they emerge.

The spinning containers are made from high-strength Hiduminium and are dynamically balanced to run smoothly at high speeds. Containers are open at the bottom and are driven from the top. They are mounted upon ball bearings inclosed within flexibly mounted individual housings and are not individually driven. Lubrication is by light spindle oil, the feed being regulated by individual distribution units supplied from a pressure pump. Waste oil is exhausted to a sump, so that a continuous supply of clean oil is assured. Stationary tubes within which the containers rotate are said to effect a considerable saving in power and also function as safety guards.

Doffing can be initiated at will by pressing a button or automatically by an electrical length indicator, a power failure, or a tape breakage.

The doffing operation, which includes transference of yarn from container to bobbin, is power operated and semi-automatic, the movements being as follows: (1) Elevation of empty bobbins to correct position within the containers, with simultaneous elevation of the traverse tubes; (2) instantaneous stoppage of front and other rollers; interception of the threads; grasping of yarn end by device on bobbin top; winding of a supplementary length of yarn on to the special bobbin tops (this yarn being later released as the bobbins are lowered); (3) rewinding the bulk of yarn from containers to bobbins. These operations are automatic and function in case of a stoppage for any cause whether or not anyone is present. It would not be harmful if the machine were left unattended at this stage of the doffing for any length of time.

The side is now ready for the doffing to be completed and spinning to start again. Two levers are manually operated; one causes filled bobbins to be lowered by power to the rest position, the other tilts the full bobbins



***Drafted yarn** passes through traversing tube and is wound on inner surface of revolving container by centrifugal force. Cylinder revolves within stationary tube.*

***When the desired length** is thus wound, an empty bobbin is elevated into the container. Front rolls stop. Device on bobbin top grasps yarn end.*

***Yarn in container** is rewound on the stationary bobbin. Rewinding process takes about 2 min., depending on yarn counts. When full. . . .*

***Bobbin is lowered** out of container. End automatically is broken, front rolls start up; next centrifugal package is wound as full bobbins are replaced.*

forward. This action severs the threads from the full bobbins and starts up the rollers. During the period after yarn has been transferred from the container to the bobbins and until the bobbins are lowered and tilted forward, the ends, having lost contact with the containers, are no longer being twisted, but remain stationary in a path from the nip of the front rollers to the filled bobbins. They are therefore unaffected by the continued rotation of the containers. One side can be doffed while the other continues spinning.

The actual period of the doffing operations is about 10 sec., but the time taken in transferring the yarn from the containers to the bobbins is about 2 min., depending upon the counts.

A lifter motion controls the traversing tubes and shapes the pattern of the package. It is driven by the usual heart cam, the speed of which is automatically controlled by the front rollers.

In order to prevent "fly" accumulating in the path of the yarn as it enters the container through the traversing tubes, an upward wind stream, directed by suitable cowling, is produced by a small fan, rotating with and situated at the top of the container.

If an end should break, it is not pieced up because this is impossible at the high roll speeds obtained. The yarn already spun before the breakage is held within the container by centrifugal force until the next doff, when it is recovered on a bobbin.

Because no operatives are needed to watch the frame, there is, in the event of end breakage, more danger of the formation of unobserved heavy laps. To prevent heavy laps, an electrical roving detector operates if a small lap starts to form on either the top or lower front rollers and causes the roving to be broken out behind the back rolls.

It is also possible, by setting a special switch, to insure that after the containers are filled and automatic doffing has functioned the main driving motor will stop. The machine may therefore be left running after the normal working shift and be ready to complete doffing and start spinning the following shift.

The machine is lower than previous types. All gearing is arranged at one end of the machine and is easily accessible. The whole gearing end is detachable from the rest of the machine. For this purpose, rollers, shafts, etc. are all coupled at that point. The two sides of the machine are encased in streamlined sheet-steel guards which automatically open during doffing. The doors at the gearing end and at the motor end open wide to give full accessibility. Electrical locking devices prevent opening of the doors when the machine is running and starting of the machine when they are open.

The bobbins do not revolve. Thus, unbalanced, worn or otherwise faulty bobbins, which, on previous types of machines cause so much trouble, are in no way detrimental. The P.S.C., however, calls for specially shaped bobbins which, if cops, are in the form of a straight tube.

The twisting machine is nearly a duplicate of the spinning frame. Apart from the pitch and size of containers, all the equipment below the roller nip is an exact duplicate of the spinning machine. The twister is of the horizontal-roller type, having individual top rolls which can be quickly lifted by hand out of contact with the lower roller.

From two to six single threads can be twisted together, using individual detectors on the machine; but there is no limit to the number of ends if assembled cheeses are made.

If spinning bobbins from the spinning frame are used which are provided with a "tail," they are placed in the special creel and tied "head to tail," the single ends passing through electrical detector wires which, if a single end breaks, causes the severence of the remaining threads. An electrical detector wire below the nip of the rollers is for the purpose of preventing laps forming on the rollers if the twisted thread should break.

The roving frame, except for pitch and container size, is an exact duplicate of the spinning frame.

A false-twist tube below the front rolls is introduced to reduce the "robbing" of loose fibers at the higher drafting speeds.

The same machine is used for either two or three operations. Between the operations, a very quick rewinding operation is introduced to reverse the direction of the fibers.

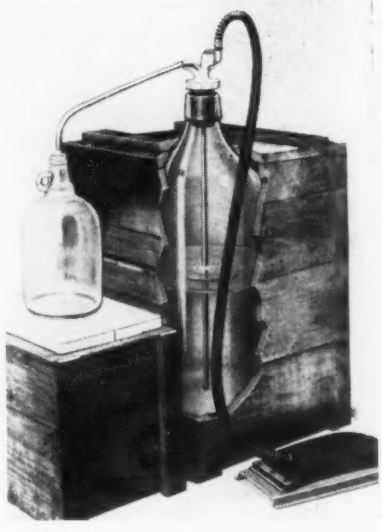
The table above gives an indication of sizes, speeds, etc., and is a preliminary statement of actual daily practice on the P.S.C. machinery. The figures are intended to be moderate and do not include higher figures obtained experimentally and not yet confirmed by mill practice. The manufacturer states that the full range of worsted counts is being processed at the speeds shown.

It is also claimed that in spinning, there are fewer ends down (except for bad roving faults, practically none). The yarn is more "full" and more "level."

The new machine is still undergoing tests and development and will not be immediately available.

Machine	Pitch of containers	Size of containers	Speed of containers	Weight of package	Shape of package
	(inches)	(inches)	(rpm.)		
Spinning	5⅝	4⅛	10,000/12,000	5 to 6 oz.	Double-ended bobbin
Spinning	5⅝	4⅛	10,000/12,000	4½ to 5 oz.	Cop
Spinning	4½	3	12,000/18,000	2½ to 3 oz.	Cop
Twisting	8½	6½	10,000/11,000	25 oz.	Double-ended bobbin
Twisting	5⅝	4⅛	10,000/14,000	8 oz.	Double-ended bobbin
Roving	10½	9	3,000/ 6,000	3/3½ lb.	Double-ended bobbin

Acid-Resistant Pump Is Hand or Foot Operated



***Danger in acid handling** can be minimized by use of this new pump unit.*

Safe and convenient transfer of acids and other liquids from carboys, barrels, or drums is possible with an improved foot- or hand-actuated pneumatic pump developed by General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Pa. Liquids flow smoothly, stop instantly, and come in contact only with the corrosion-resistant tube. No tilting of the container is necessary; and danger of a slip, a splash, or a spill is minimized. When the pump is removed from the container, liquid drains completely.

G-S pumps with lead tubes are suitable for sulphuric, hydrochloric, hydro-

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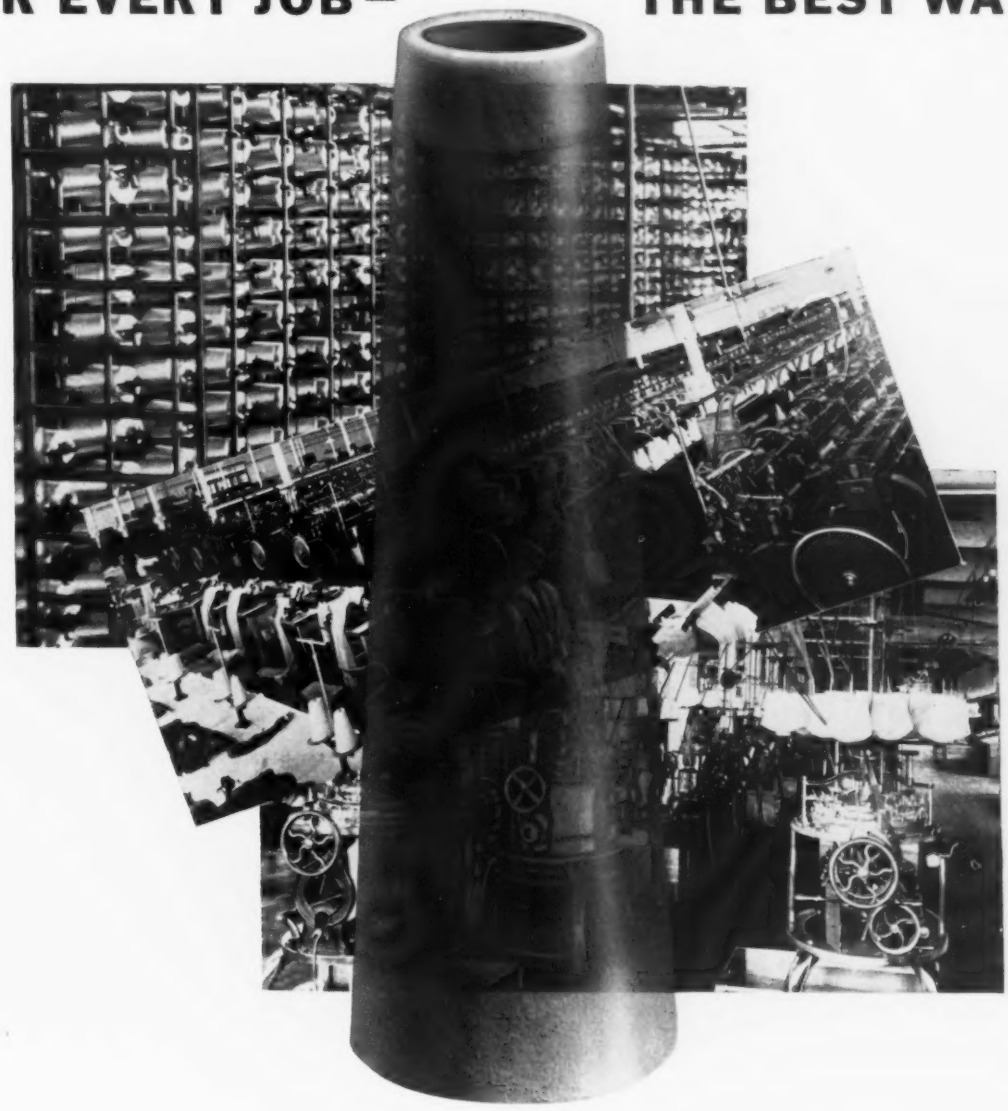

SONOCO makes cones for every textile packaging need. Wherever indicated a SONOCO cone has been developed, improved and perfected through the years, to do a better job.

SONOCO makes cones in dozens of specifications ranging from colors to sizes, from tapers to finishes, for every known kind of yarn fibre and for every known use.

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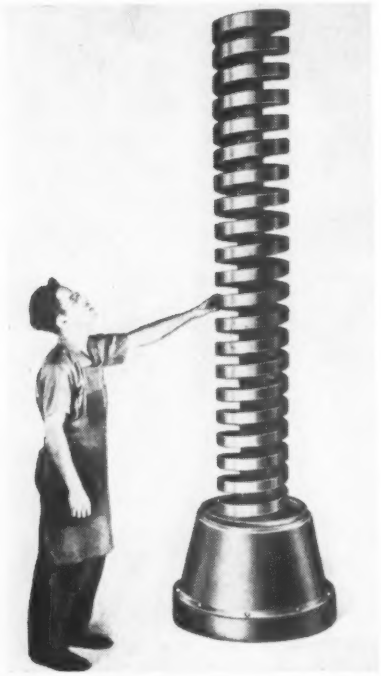
fluoric acids and many others; price is $11.30 complete. Saran plastic tubes are recommended when the pump is to be used in nitric, muriatic, citric, phosphoric, acetic, bleaches, and others; price is $12.80 complete.

Vibrating Spiral Conveyor Saves Space, Defies Gravity



A new power and space-saving method of conveying materials either upward or downward has been developed by Syntron Co., Homer City, Pa. A spiral elevating ramp is vibrated at high frequency which is said to cause materials to flow in either direction. Rates of vibration can be controlled by a rheostat or reactor provided with each unit. The spiral ramp does not turn. Current required is 110, 220, or 440 v., a.c.

Portable Infrared Units Offered in Improved Models

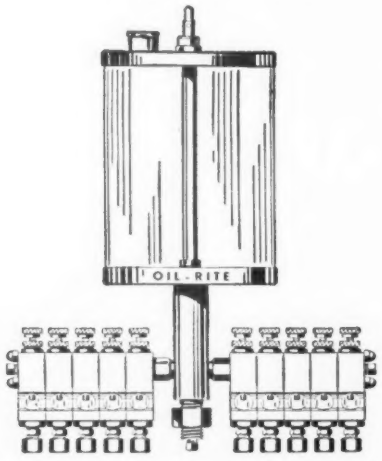
Several improvements in the design and construction of 6-, 8- and 12-lamp Carbomatic infrared portable electric units has been made by Carbomatic Corp., 28-81 47th St., Long Island City 3, N. Y.

A new, all-steel, electrically welded stand is designed to give rigid support to the reflector box which is movable, upward and downward, through a full arc, and to allow greater flexibility in use—whether the units are employed singly or as a battery to form banks, tunnels, etc. Greater accuracy and stability thus are afforded in the positioning of the units for heat-processing applications.

The aluminum reflector box is equipped with improved new lamps, resistant to sudden heat changes and to moisture. The infrared lamps, which are of the 125W, 250W, R-40, or 375W reflector-type, are devised to insure safer operation and uninterrupted production for the user.

Another feature is the convenient steel tray which is an integral part of the stand and exceptionally handy for use in the arrangement and processing of small objects. Materials can be placed on the tray and dried or baked with the reflector in the downward position. The tray is mounted on ball-bearing swivel casters for complete mobility.

Multiple Gravity Oiler Is Centrally Controlled



Up to 24 points can be lubricated by this multiple-sight gravity-feed oiler.

A new multiple-sight gravity-feed oiler for steady and reliable drop-feed oiling to multiple points has been developed by Oil-Rite Corp., 3401 S. 13th St., Milwaukee 7, Wis.

One of these oilers is said to replace from two to 24 individual oilers. There is only one reservoir to fill, one shut-off lever to operate; and oil fed to each bearing can conveniently be adjusted and observed at one station.

The shut-off lever on top of the oiler controls a needle valve which releases the oil to the sight-feed valves. The drop-feed control of each sight-feed valve allows independent regulation from full flow to a complete shut-off. Smooth, easy, hairline adjustments can be made and retained through the use of a friction screw. The amount of friction can be varied by tightening or loosening the knurled lock nut, depending upon individual conditions. The screw can be locked against severe vibration.

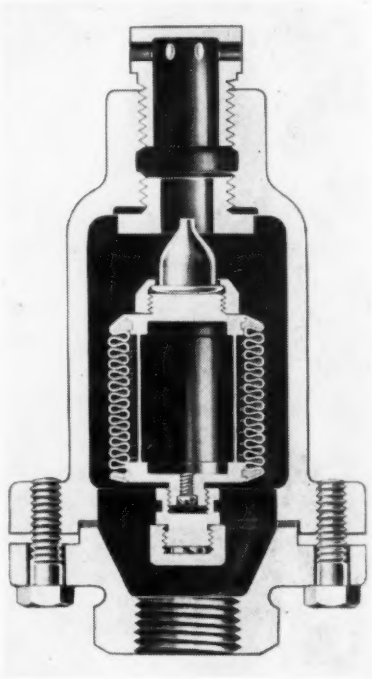
Oilers have a lightweight aluminum-alloy body. The reservoir, usually of unbreakable Lucite, is supported by top and bottom caps between two cork gaskets. A large self-closing hinge lid permits easy filling of the reservoir.

The central mounting shank at its lower end has a standard thread and nut for installing the oiler. The shank design results in small overall length, especially advantageous when a large number of feeds must fit into a limited space. Each sight feed is equipped with compression fittings suitable for either ¼- or ⅜-in. O.D. tubing. Sights are usually furnished in unbreakable plastic.

The oiler can be taken apart and is easy to clean. Adjustment screws, pipe plugs on either end of the sight feeds, and a drain plug at the bottom of the shank can be removed for cleaning.

Standard models are available in five body sizes with capacities ranging from 9 oz. to 1 gal. and up to 24 feeds. Prompt delivery can be made.

Vent Speeds Exhaustion Of Air From Cylinders



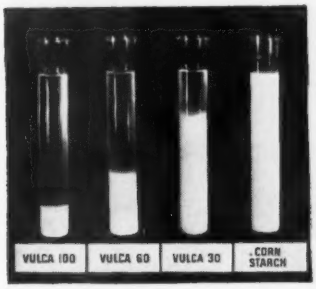
Warming-up periods of steam equipment can be reduced by use of this vent to exhaust air.

Greatly increased air-venting capacity is claimed as the feature of a new line of high-pressure air vents for industrial steam equipment developed by Sarco Co., Inc., 350 5th Ave., New York 1, N. Y. Powerful phosphor-bronze helical bellows with relatively large diameters are designed to permit over-size valve orifices at pressures of 0 to 200 psi.

The vents are recommended for installation on equipment such as steam-jacketed kettles, calender beds, dry cans, etc. The vents have renewable

NEW! 'VULCANIZED' STARCH OFFERS YOU...

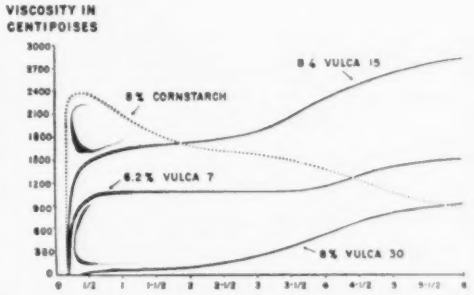
...CONTROLLED SWELLING



VULCA® starches are ether derivatives of ungelatinized starch. They are graded according to their resistance to swelling in boiling water or cooking in water. The degree to which individual VULCA granules expand depends on the grade used, but in all cases they show greater toughness and resistance to rupture than all other starches. The settling test illustrates the comparative swelling of three grades of VULCA starches — VULCA 100 (completely non-swelling) and the intermediate grades 60 and 30 — as compared to standard corn starch after cooking for 20 minutes. Each graduate contains a 5% starch in water mixture. Note that the difference in degree of swelling of the three grades of VULCA starches is indicated by the volume of settled starch, while the corn starch has been completely dispersed, resulting in gelled paste. In as little as three parts of boiling water VULCA 100 will give a fluid suspension, the individual granules swelling approximately only 5 microns. Since VULCA is available in any desired grade, viscosity of a mixture using these starches as a base is subject to rigid control.

...CONTROLLED VISCOSITY

VULCA pastes maintain their viscosity after prolonged cooking, at 92°C, as shown by continuous viscosity curves. Note that while corn starch soon attains its maximum or peak viscosity and then begins to decrease in viscosity, the VULCA viscosity curves do not exhibit peaks and do not show a loss of viscosity on prolonged cooking. VULCA starches are resistant to degradation by acids and amylolytic enzymes. Under a given set of drastic gelatinizing conditions where corn starch paste has already passed its peak viscosity and is breaking down, VULCA starch of the proper grade would just be reaching *its* peak viscosity. The amazing inertness of VULCA 100 is aptly demonstrated by . . . its resistance to those agents that completely gelatinize starch . . . its stability during autoclaving and pressure cooking . . . and its capacity for steam sterilization without any appreciable change in its powdery appearance.



A FEW INDUSTRIAL APPLICATIONS

FOOD: As a thickener for canned foods. With VULCA, less 'starch' is used to achieve any given thickening effect, resulting in improved appearance, consistency and reduction of 'starchy' appearance and flavor. **COSMETIC:** As a base for powders, rub-off and massage creams. VULCA is non-irritating. In addition, it is readily absorbed by the body when introduced into open cuts or abrasions. **MISC:** As a thickener of the alkaline electrolyte solutions in storage batteries where VULCA starches offer more stable viscosities. Also for rubber dusting and paper coating.

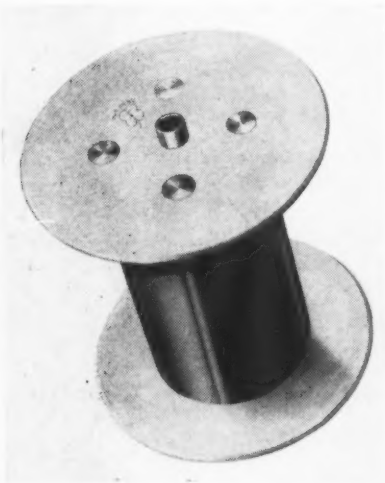
Further information and research samples can be obtained from National Starch Products, Research and Development Laboratories, 270 Madison Avenue, New York 16, N. Y.

National
STARCH PRODUCTS

STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

heads of stainless steel; bodies and bonnets of cast brass, cast iron, or semi-steel depending on the size and pressure. Vents are available in vertical and angle patterns in sizes from ⅜ to 1¼ in.

Take-Up Shaft Designed for Nylon



***No distortion** is claimed as a feature of this take-up shaft.*

A new take-up shaft designed to withstand pressure of nylon and other yarns has been developed by the Cloverleaf-Freeland Corp., Hazelton, Pa. The new take-up shaft has a molded barrel said to be many times stronger than conventional shafts now in use and has aluminum-alloy heads.

Features reported for the new take-up shaft include the following: strength to withstand extreme pressures, no distortions, barrel remains concentric. It is said to outlast ordinary take-up shafts. The shaft resists moisture, oils, and grease, and it can be cleaned quickly and easily.

The new take-up shaft has undergone months of tests made under actual operating conditions.

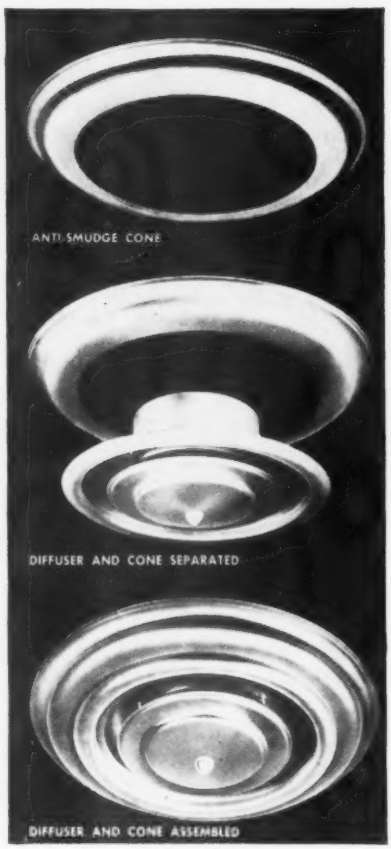
Plastic Bobbins Will Not Warp

A new line of plastic bobbins and spools has been developed by Plastomatic Corp., Wayne, Pa. The bobbins are said to feature excellent dimensional stability, eliminating warping of heads or barrel; dynamic balance to prevent vibration at high speeds. A smooth finish, said to be hard and undentable, prevents snagging. The plastic will not absorb dyes, grease, or dirt, the manufacturer states.

Thermometers Are Corrosion Resistant

***New dial type thermometers** recently introduced by The Foxboro Co., Foxboro, Mass., retain the easy-reading features of standard Foxboro design, but are now available with all-welded thermal system of Type 316 molybdenum stainless steel, capillary and bulb having maximum protection against corrosion.*

Cone Prevents Ceiling Smudge



***Ceiling smudge** is prevented by separation of the air stream from the ceiling by a new cone for use with Kno-Draft diffusers.*

Ceiling smudge, a frequent occurrence in air-conditioned rooms, particularly where sooty, smoky or dusty air is circulated or where there are rough-textured, dirt-catching ceilings, may be effectively controlled by the addition of an anti-smudge cone to the Kno-Draft adjustable air diffuser, according to W. B. Connor Engineering Corp., 114 East 32nd St., New York 16, N. Y.

Fitting between the outer rim of the diffuser and the ceiling, the anti-smudge cone provides the precise minimum separation of the air stream from the ceiling and, at the same time, complements the appearance of the diffuser.

In addition to inhibiting ceiling smudge, the cones offer several other advantages. For example, Kno-Draft diffusers with anti-smudge cones require less space between the face of the duct and the finished ceiling. Moreover, the use of these cones provides far greater latitude between the ceiling opening and the outside rim of the diffuser. This means that less care need be taken in cutting ceiling openings, an advantage of particular appeal to the contractor.

Rubber gaskets for the joints between cone and diffuser or ceiling are available.

Anti-smudge cones are furnished for both supply and combination supply-and-return Kno-Draft diffusers from 4 to 18-in. neck diameter.

2,000-Lb. Fork Truck Has Light Weight

***Light weight** makes this new truck suitable for use on low-capacity floors and elevators.*

A new lightweight, low-priced fork truck of 2,000-lb.-capacity has been developed by Baker Industrial Truck Div., Baker-Raulang Co., Cleveland, Ohio.

The truck is applicable in all plants where narrow aisles, congested areas, limited floor capacity, small and low-capacity elevators are a factor, and wherever loads can be limited to 2,000 lb., 36-in. long.

The new fork truck has a 42-in. wheelbase, a 30-in. width, and an over-all length exclusive of forks of 63 in. To make a right-angle turn, the

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truck requires only 76½ in. plus the length of the load.

The comparatively light weight—3,850 lb.—permits its use on floors having limited capacity, on low-capacity elevators, and in highway-truck loading. The danger of breaking through truck floors is minimized.

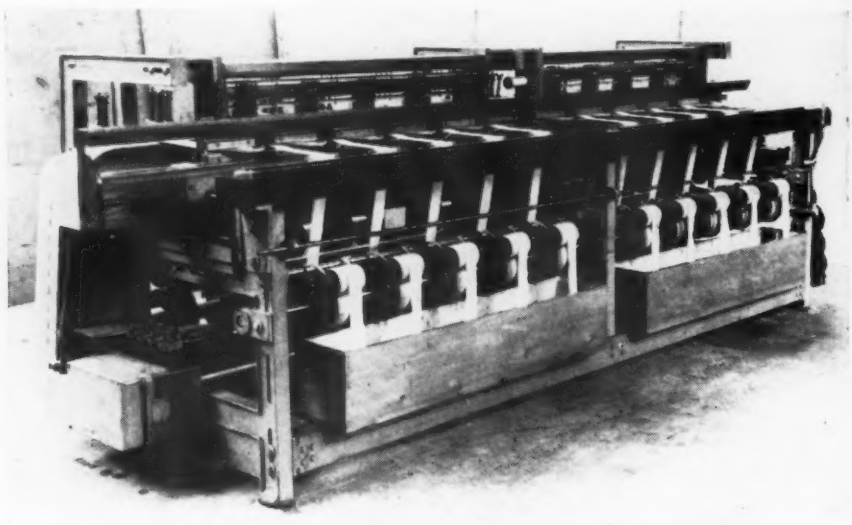
The travel controller provides three speeds forward and reverse. The circuit is made and broken by a contactor assuring low maintenance costs since all arcing is confined to the contactor and burning of controller segments and fingers is minimized. The truck may be started only with the controller in first speed when the seated driver depresses the foot-switch treadle, assuring safety to personnel and materials.

When the driver removes his foot from the treadle to apply the brake, the foot switch causes the contactor to interrupt the circuit, cutting off power to the motor. This saves wear on brake linings and further assures safety of operation. In order to restart the truck, it is then necessary for the driver to bring the controller back to the first-speed position with his foot on the treadle.

The standard battery equipment is rated at 36 v. and 250 amp.-hr., a capacity sufficient for 10 to 11 hr. of service under average operating conditions.

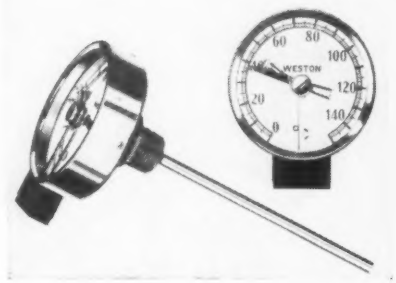
Ribbon Loom Has Positively Driven Harnesses

A new eight-harness narrow-fabric loom with 10 to 16 spaces for weaving ribbons from 1 to 2¾ in. wide has been developed by T. F. Wilkinson & Co., Ltd., Paynes Lane, Coventry, England. Harnesses are positively driven from beneath from a side-mounted cam box. Two cams control the harness movement giving a positive up-and-down motion. The slight superstructure above the harnesses keeps the loom silhouette low. The lay moves on slides; the shuttle drive is through a splined shaft passing through the lay. The clutch box is totally inclosed. Speed is said to be about 200 picks per min.



Ribbons may be woven from sheet warps on this new British loom.

All-Metal Thermometer Indicates and Controls



The accuracy of this contact-making thermometer as an indicator is ±1%; as a control device, ±1.5%.

A new contact-making thermometer, combining features of an indicating thermometer in addition to an alarm or control device, has been introduced by the Weston Electrical Instrument Corp., 617 Frelinghuysen Ave., Newark 5, N. J.

The instrument consists of the Weston all-metal thermometer with an adjustable contact arm mounted in the glass and bezel. A screw-type terminal block mounted on the periphery of the case front provides for an easy electrical connection. Contacts are of the magnetic type which assure positive action during making and breaking of contacts. The contact arm is easily set to make contact at any temperature over the entire scale, and while contact can be broken manually after an alarm has been sounded, the contacts "break" automatically on a temperature change of about 5%.

The thermometer can be supplied to make contact on either increasing or decreasing temperature. The instrument is available in stem length from 2½ to 24 in., with longer stems available on special order.

Tote Box Made of Plastic

Versalite, a new thermoplastic material produced by United States Rubber Co., Rockefeller Center, New York, N. Y., is used in this deep-drawn tote box for textile mills. The tote box, 24x15x15 in. with sides ¼-in. thick, weighs only 10 lb., has a smooth finish, is easy to clean, and is extremely tough. Versalite, according to the company, can be formed into regular and compound shapes as large as 5x10 ft. and can be made in almost any thickness above 0.020 in.

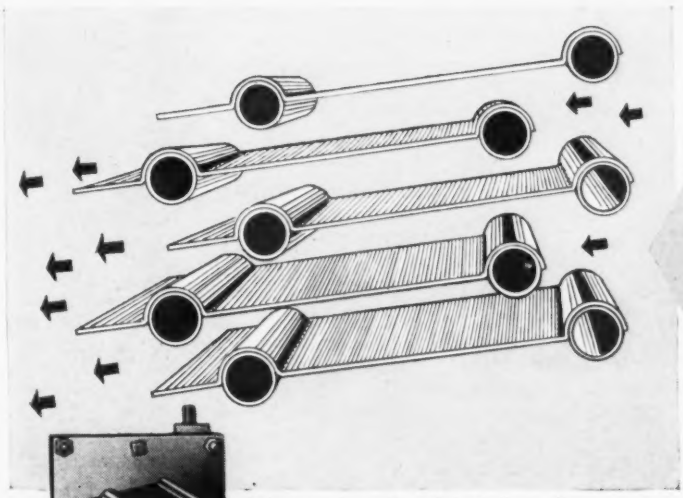
Coated-Canvas Baskets Prevent Snagging

Longer life and less maintenance as well as prevention of snagging are advantages of baskets made of Glosstex coated canvas.

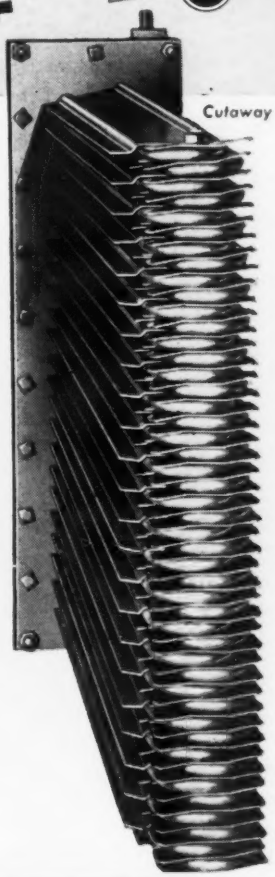
A smooth-surfaced canvas, Glosstex, which is said not to snag yarns, or woven or knitted fabrics is being used in trucks produced by C. R. Daniels, Inc., 4900 Wetheredsville Rd., Hillsdale, Baltimore 16, Md. The new basket is made of vinyl-treated canvas which cannot be penetrated by oil,

NOW A SELF-CLEANING UNIT HEATER

TEXTILE THERMOLIER



Cutaway view of unobstructed air flow passages, (drawn to exact scale.)



Features of TEXTILE THERMOLIER in addition to *self* cleaning:

- Maximum capacity provided at all times and annoying and destructive water hammer eliminated because built-in pitch of the tubes and internal cooling leg assure continuous drainage of condensate.
- Safety and durability assured with leak-proof tube-to-header construction.
- Plain thermostatic trap, the simplest and least expensive kind of trap, made practical because of Thermolier's exclusive internal cooling leg.

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EASIER HOUSEKEEPING! MORE EFFICIENT HEATING!

Free flow of air self-cleans the heating surfaces. Lint, fly and dirt sweep clean from horizontal trailing edge.

Incorporating all the features that have made the standard THERMOLIER a leader, the new TEXTILE THERMOLIER banishes the problem of clogging and loss of heating capacity, and cuts cleaning to almost nothing.

In actual weave room test, TEXTILE THERMOLIER proved its superiority:

- A conventional unit heater clogged solid in four days. Its heating capacity was lost as clogging increased. Finally it had to be shut down for a prolonged cleaning period.
- After three weeks of operation, TEXTILE THERMOLIER showed negligible accumlation. It was quickly cleaned with an air hose.

GRINNELL

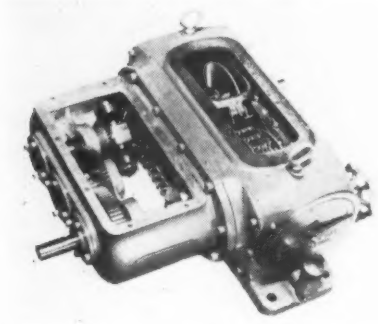
GRINNELL COMPANY, INC.
Providence 1, R. I.

grease, dyes, water, or dirt. The canvas is also said to be washable, to resist deterioration in heat up to 300° F., and not to shrink. Test results show that the Glosstex canvas resists abrasion 2½ times longer than untreated canvas. Mildew tests showed that the treated canvas did not lose strength while untreated canvas lost 50%.

Glosstex is available in all Daniels canvas products. Stands, baskets, and trucks with the treated canvas are in stock. It is also available by the yard in widths up to 48 in., and in three different weights.

Aluminum color is standard, others can be ordered.

Speed Transmission Has Infinite Variability



Any speed up to 7,000 rpm. can be provided mechanically by this transmission.

A new transmission, Specon MD, designed to provide infinitely variable speeds within wide ranges has been announced by Speed Control Corp., Dept. D12, Wickliffe, Ohio. The unit consists of a mechanical differential attached to a standard Link-Belt PIV unit. Four models are offered, providing any desired speed, either forward or reverse, between 0 and 7,000 rpm. Output torque from 20 in.-lb. (minimum speed) to 15,460 in.-lb. (maximum speed) is also available. Net output horsepower varies, in different models and speeds, from 1 to 20 hp. Desired speed is set by a hand wheel and indicated on a large dial. A vernier dial is provided, when specified, to permit extremely close speed settings. Related speed-torque characteristics within the extreme limits may be provided to fit almost any applications. Specon MD transmissions are suited to many continuous industrial processes requiring accurate speed control at one or more points. They are mechanical only and involve no friction nor hydraulic drives and no electrical components.

Useful Accessories FOR TEXTILE MILLS

Silent-Chain Stock Drives

A new series of silent-chain stock drives for ½- and ¾-in. pitch chain sizes has been announced by Morse Chain Co., Detroit, Mich. Driven sprockets for these and other chains made by the company will now have finished bores prepared for use with Taperlock bushings. Bushings will be available with bore diameters in increments of 1/16 in. The six dual-duty sprocket face widths will operate with eleven stock chain widths, making possible as many as 40 ratios for each chain width.

Film Comparator-Densitometer

A film-projection comparator-densitometer developed for making comparisons with master films and obtaining transmission readings of spectrum lines photographed on 35-mm. spectrum-analysis film has been announced by Applied Research Laboratories, 4336 San Fernando Road, Glendale 4, Calif. The unit automatically projects transmission readings onto the screen near the line being measured. For comparison, the sample and master films are moved simultaneously and aligned by vernier action.

Adustable Air-Diffuser

An adjustable supply and return-air diffuser intended for use where air is to be both discharged from and returned or exhausted through a common unit has been developed by W. B. Connor Engineering Corp., 114 East 32nd St., New York 16, N. Y. In the multi-cone assembly, supply air is discharged from between the outer and intermediate cones and the return or exhaust air is drawn through the center section. Supply and return air are controlled by separate dampers, and provision is made for varying air direction.

Aluminum-Enclosed Bus Run

A new aluminum-inclosed isolated-phase bus run for safely interconnecting generators, transformers, and switchgear equipment has been announced by General Electric Co., Schenectady 5, N. Y. The equipment is available for 15-kv. applications in current ratings of 1,200, 2,000, 3,000, 4,000, and 5,000 amp., and has a basic impulse level of 110 kv. It is dust-tight and weathertight and is tested to meet AIEE and NEMA standards.

Foam-Engine Fire Extinguisher

A new, wheeled, foam-engine fire-extinguisher has been announced by Pyrene Mfg. Co., Newark, N. J. The unit, of 40-gal. capacity, is an improved weapon against flammable-liquid fires. The engine is said to deliver 375 to 400 gal. of foam in 3½ min. The foam stream has a range of 40 to 55 ft. The engine comes in indoor, outdoor, and airport models.

Arc-Welding Machine

An air-cooled, engine-driven arc-welding machine designed to furnish steady current under all load conditions has been announced by Air Reduction Sales Co., 60 East 42nd St., New York 17, N. Y. The 200-amp. welder has a range of 25 to 250 amp. at 30 v., 50%-duty cycle. Two convenient outlets for lighting purposes or universal power tools are provided on the assembly.

Low-Cost Gas Generator

A compact unit which produces safe, low-cost gas from fuel oil for all types of industrial ovens and furnaces has been developed by Vapofier Corp., 10316 South Throop St., Chicago 43, Ill. The unit is said to maintain constant pressure and air-gas ratios from a reducing to an oxidizing flame. Users report up to 50% lessened fuel costs over manufactured gas.

Type S Rotary Pressure Joint

A new development of a rotary pressure joint designed to require no external piping support has been announced by Johnson Corp., Three Rivers, Mich. Known as type S, it is to be used to admit heating or cooling agents to rotating rolls, particularly where lateral movement of rolls is encountered. The joint is self-lubricating and automatically adjusts itself for varying pressures. A large carbon-graphite bearing inside the body supports the entire weight of the joint.

Non-Locking Clutch

A floating-disk clutch equipped with non-locking type levers has been developed by The Carlyle Johnson Machine Co., Manchester, Conn. This clutch is said to be suitable for machinery equipped with foot-pedal operation, or where clutch engagement is rapid and frequent, for rapid-traverse mechanisms, or for any operation where it is not desirable to have the clutch lock into engagement.

New Strapping Tools

Development of a new stretcher and a new sealer which provide means of applying flat-steel straps to packs where strapping operating surface is very limited has been announced by Acme Steel Co., Chicago, Ill. The tools are recommended for insulation work and for packages as small as 1 in. in diameter.

Portable Electric Drill

The model No. 500, a new portable electric drill of lightweight construction and ½-in. capacity, has been introduced by Portable Electric Tools, Inc. Features of the unit include a balanced armature, aluminum-alloy construction, universal a.c.-d.c. motor, and removable side handles for close-quarter drilling. Over-all length of the drill is 15½ in., and it weighs 9 lb.

DAY-LINE* FIXTURES

now with TURRET* Sockets

Easy and Foolproof to Relamp

Now the Day-Line... already the pace-setter among industrial fixtures for simple installation, economical maintenance, and heavy duty service... simplifies the relamping problem. All 40-watt lamp fixtures are equipped with the new TURRET Sockets that make relamping as safe and easy as plugging into a wall outlet.

- **Lamps slip in instantly from either end and *stay* in. Vibration cannot shake them loose.**
- **Spring-action keeps lamps well centered... assures positive floating contact.**

RESULT:

Less lamp mortality... lower maintenance costs... more customer satisfaction. Another good reason why it pays to install the DAY-LINE for all your industrial applications!

The **DAY-LINE** Heavy-duty industrial fluorescent fixtures are designed for two and three 40-watt and two 85-watt lamps. Sturdy, porcelain enameled reflectors... truss-type channel construction... unit or continuous installations. The 40-watt fixtures are equipped with the new TURRET Sockets and open or closed end reflectors.
U. S. Patent Nos. 2317434, D-135375 and D-133458.

May we send you bulletin 3-A-2 with complete details?

*T. M. Reg. U. S. Pat. Off.

010

Day-Brite Lighting, Inc. 5455 Bulwer Avenue, St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.

In Canada:
address all inquiries to Amalgamated Electric Corp., Ltd.,
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Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

By GLENN GARDINER

When Machines Displace Men

GLENN GARDINER

"Bill Walker got laid off when the company replaced mule spinning frames with ring spinning frames and the poor fellow hasn't been able to get another job," a worker complains.

"Yes, and with all the other changes we are hearing about, there is no telling what will happen to all of our jobs," his fellow worker replies.

If such conversations become widespread, it is easy to see what opposition might develop to the introduction of technological improvements in our industry.

Technological Improvements Necessary

Let's think about this problem. To begin with, technological improvement in our textile industry is "inevitable and necessary" if we are to produce a dollar's worth of value for customers compared to what a dollar will buy in other industries. Our standards of living in America are built upon the methods and mechanical improvements which have taken place in the past. The maintenance of our present standards of living and any hope for improvement of living standards in the future, depend upon continued technical advances in all industry.

Improvements Create Jobs

What is more, the whole history of industry proves that technological labor-saving improvements do not decrease the sum total of jobs. Technological improvements have created many more jobs than they have eliminated. It is undeniable, however, that a given labor-saving improvement in a specific department in a mill does eliminate labor at that point, even though it may create a demand for goods which results in more jobs in other departments. But, we cannot overlook the fact that Bill Walker has had this job "shot out from under him." Nor is Bill Walker interested in the long-range benefits which may develop out of the particular improvement which cost him his job. We cannot expect him to be enthusiastic over the fact that such improvements help to make the jobs of other workers in the mill more secure. He is not impressed by the fact that the loss of his job may add a grain of improvement to the standards of living of the entire population.

Unless we give some consideration to those very people whose jobs are eliminated by technological improvements, we must not be surprised if there develops considerable and determined opposition to the introduction of improved methods and mechanical equipment in our textile industry.

How Can We Sell Improvements to Workers?

What can we do about it? There is much that we can do about it. But, it requires the cooperation of all members of the management team from the lowest supervisor to the highest mill executive. Let us consider a practical plan that one textile mill known to us has worked out and which has been functioning successfully for several years.

This particular mill management had observed that its labor turnover was running about 25% per year. It also concluded that, at the very most, not more than 4 or 5% of the jobs in its mills could be eliminated in any one year by improved methods, better processes, and new equipment. Therefore, if five workers were to lose their jobs within a year as a result of technological installations, and 25 jobs out of every 100 came open each year through labor turnover, there existed the possibility of placing each technologically displaced worker on one of five jobs where replacements were necessary to fill vacancies left by normal turnover.

Of course, this company recognized that five jobs do not automatically open up whenever one job is eliminated by technological improvements. Some planning would be necessary to match technologically displaced workers with vacancies throughout the mill organization. They also realized that technological improvements do not suddenly develop from one day to the next. Invariably there were periods of weeks, months, or even years between the idea of a technological improvement and its actual installation. For one thing, the placing of orders for equipment was usually followed by a period of some months before delivery and installation could be expected. During this period, there would be plenty of time to match men who were to be displaced with suitable jobs that came open through labor turnover.

Matching Men and Jobs

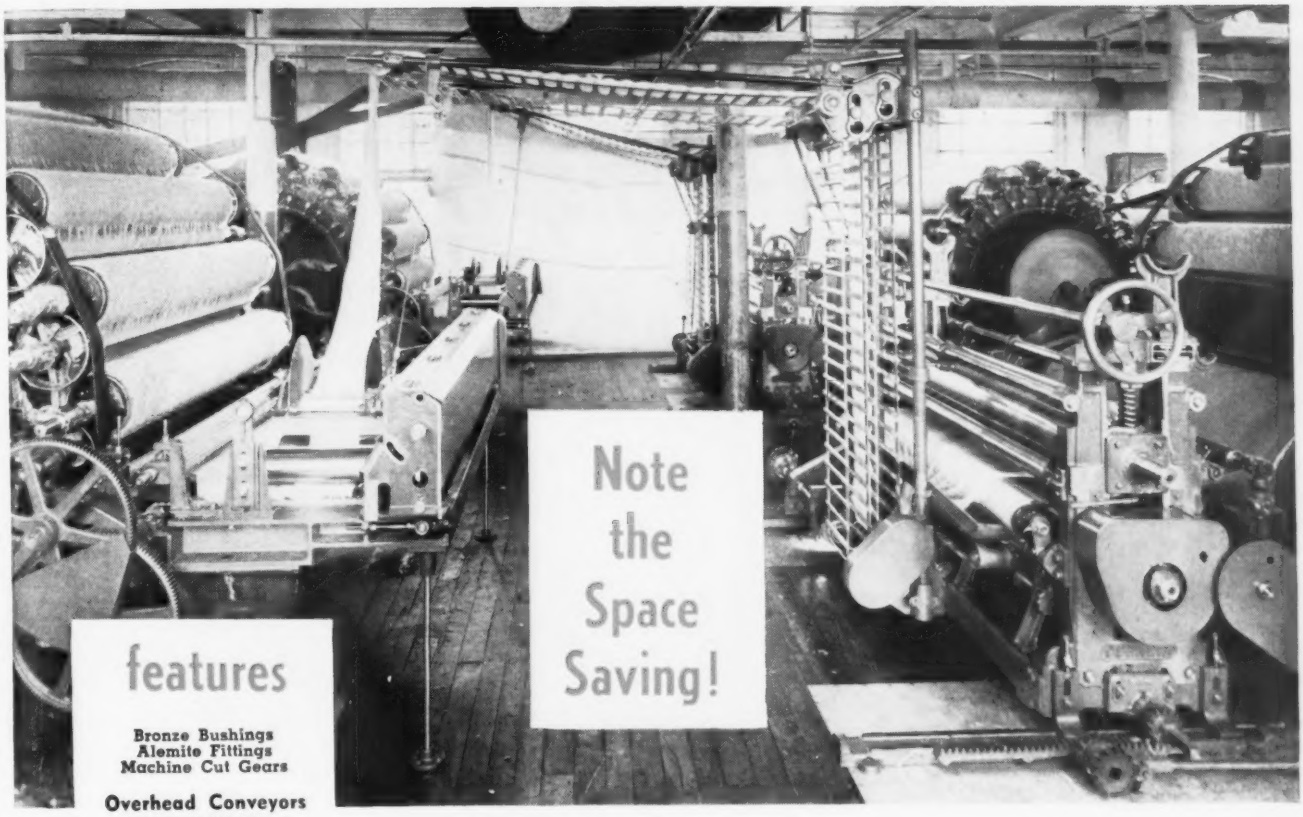
Here is how this particular company matches displaced people with jobs. The top management approves the purchase of new equipment, mill rearrangements, and process changes on the basis of engineering reports which summarize the need for the improvements, the estimated cost of making alterations or buying equipment, and the specific reasons for these changes. When the project is approved, a copy of the engineering proposal is forwarded to the chief personnel executive of the company. Where labor saving is indicated in the proposal, the personnel executive requests the mill industrial-engineering department to report on the specific labor saving to be derived, including the estimate of the ultimate number of men who will be displaced and the specific job classification involved. If this study indicates that five men of a given job classification are to be displaced at the time of installation six months hence, the personnel department has these six months in which to find suitable transfers for the actual men whose jobs are being eliminated.

Supervisors Must Cooperate

This is where a good deal of supervisory cooperation must come into play. Sometimes a suitable job may be available a week or two before the actual installation. Both supervisors and men must be willing to submit to some inconvenience, if necessary, in order to make a man available for a short time in advance. Other workers remaining on the job may be called upon to put in some extra effort or overtime. Or, the supervisor in whose department the vacancy occurs may have to do some things to postpone filling the vacancy for a short period. But where there is foresight, planning, and cooperation, such a plan for the protection of technologically displaced employees can be made to work. The company whose policy we are describing here has been operating this plan successfully for a number of years. It works!

DUESBERG-BOSSON of AMERICA, INC.

OUR PATENTED PERALTA MACHINE AND NEWLY DESIGNED INTERMEDIATE CENTER BROAD BAND FEED



features

Bronze Bushings
Alemite Fittings
Machine Cut Gears

Overhead Conveyors
Fastened Rigidly to Peralta
Two Vertical Supports Less Vibration
Oilless Wood Bushings
Heavy Roller Chain Drive
Jaw Clutch Aids Starting
Width of Woolen Band Adjustable—2" to 11"

Feed Table
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Deeply Fluted Aluminum Rolls
Prevent Web from Sticking

for:

(a) Removal of Paint, Tar, Vegetable Matter.

(b) More Uniformity of Yarn.

(c) Greater Card Production.

(d) Increased Spinning Production.

(e) Better Weaving.

(f) Enhanced Fabric.

Duesberg-Bosson of America, Inc.

351 Harris Avenue, Providence, R. I.

Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Is Two-Cylinder Carding Enough for Fine Wool?

In a recent article on wool carding by Gustav Zellnik in TEXTILE WORLD, the statement is made that "fine fibers do not need so much carding; they merely have to be opened and laid parallel—a job that can be accomplished on two cylinders."

It has been my experience that the fibers of fine wools that become matted and felted have to be carefully opened in order to get them clear. We do not believe that two cylinders will do a good job on fine wool. The carpet people seem to bear this out by having only two cylinders on coarse wools.

Can you clear this matter up for us? It is an important point in our work. *(R-440)*

I am inclined to go along on the theory of your subscriber rather than agree with Mr. Zellnik on the question of carding fine wools.

It has been my experience that fine wools require considerably more carding than coarse wools. While it is an established fact that fibers need to be opened and paralleled, this is really a definition of carding.

As your subscriber states, the fine wools become more matted and felted than coarse wools. Consequently, more carding action is needed to open and parallel fine fibers than coarse fibers. *(R-441)*

As I pointed out in my article, certain fibers like cashmere or wool over 70s can be run on a two-cylinder set of cards to get a good, clean roving. This refers mostly to opened or cut tops and "dehaired" cashmere, where the blends do not need so much carding.

Good results are obtained in some mills with 70s wool by reducing the speed of a 60-in.-diameter cylinder from 72 rpm. to 64 rpm.

For running fine wool, it is also a good practice to have the various parts of the card clothed with fine wire. Even some workers should be clothed with the so-called "thread-remover wire," which takes out small neps.

To come to a definite conclusion on this question, it is admitted that every case has to be investigated from the viewpoint of raw material and the condition of the machine. Generally speaking, I would recommend trying to reduce the cylinder speed. I believe that some good results will come from such a trial. *(R-442) Gustav Zellnik, Newburgh, N. Y.*

Do You Have Workers Returning After Operations?

The law of averages indicates that a considerable number of your mill workers will undergo some sort of surgical operation within the next five years. Your records will show that the same condition existed during the last five years also. When these workers return to work after an operation, they present a problem that mill management may fail to recognize. The result is that foremen and overseers receive little or no instructions on how to handle the particular cases of employees who have had major operations.

It is not the same thing to return to work after a major operation and to return to the mill after a prolonged illness. An operation is a shock to the body, but it also plays havoc with the nervous system. Not all people react alike, and the intelligent foreman must understand both the basic problem and the variations in its effect on individual workers.

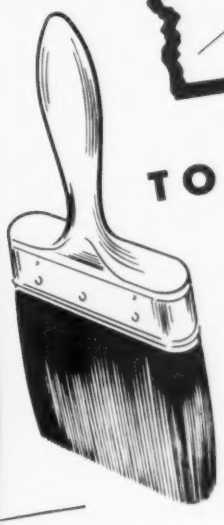
(*Continued on page* 198)

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"We'll have to install refrigeration if she goes on raising the temperature"

AN OPEN LETTER...

TO PAINT BRUSH USERS



Fuller paint brushes are 100% PURE BRISTLE. Professional painters know that pure bristle gives more yardage and does a better painting job than any other brush material. The natural wave in the individual bristles forms pockets for the paint as the bristles overlap. These reservoirs and the "flag ends" permit the paint to flow smoothly onto the surface with a minimum of brush marks. Bristles are resilient and spring back with each stroke. No "laying down" as with other brush materials. Bristle brushes will repay you many times by giving longer service and better results.

Send for booklet on how to reduce brush costs. Simply write to . . .

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THIS IS NO. 72 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

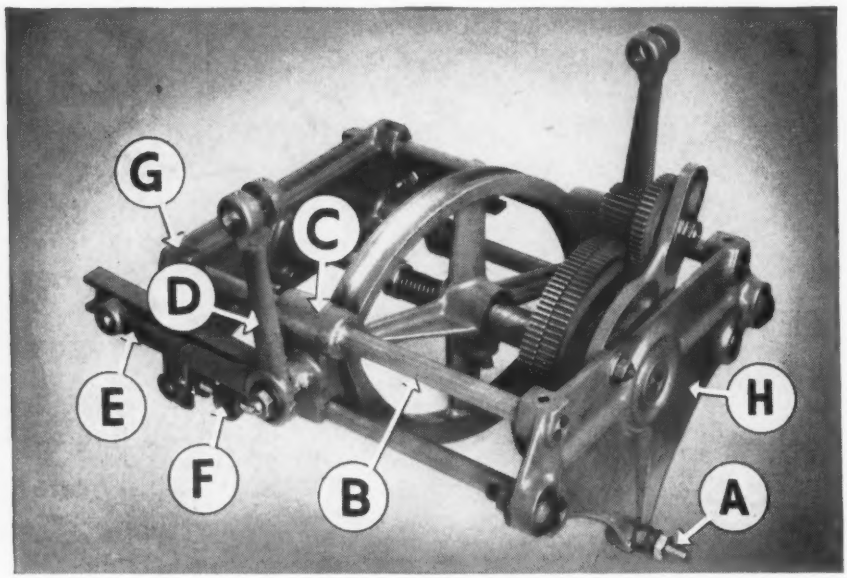


Fig. 1—Atwood Model 100 Traverse Motion Assembly complete as shipped.

TRAVERSE MOTION ASSEMBLY

Atwood Model 100 Up-Twister

Greater rigidity of the traverse motion assembly and a more positive action resulting in greater uniformity of the finished package have been achieved by a re-design of the traverse motion in the Model 100 Up-Twister.

Complete assembly of the traverse motion at the factory permits a thorough inspection of all mating parts. Thus the accuracy with which every assembly will perform can be assured at the time it leaves the plant.

The unit is attached to the end stand of the machine by two bolts and an adjusting stud (A in Fig. 1) which is used for leveling. The assembly is leveled lengthwise by placing a small level on the horizontal guide and support rod (B) and adjusting the stud (A) until the bubble is centered. Oversize holes in the end stand, through which the bolts are passed, allow for proper positioning and any crosswise leveling that may be necessary. In this case a larger level is placed across the two top guide and support rods.

To give added support, two stiffening rods are attached at one end to the end stand and at the other end to the end plate (G). An oil drip pan and a gear guard are also provided. (Inasmuch as Fig. 1 shows the traverse motion assembly complete as shipped, the two stiffening rods, oil drip pan, gear guard, and traverse connector mentioned later are not shown.)

There are two traverse motion guide and support rods, made of 3/4 in. stock, on each side of the unit, one located directly above the other and both held rigidly at one end by the base plate (H) and at the other end by the end plate (G). Vibration and rocking motion of the rods in relation to the traverse stroke are, therefore, reduced.

Each traverse lever guide (C) has two bushings which guide on the upper rod. The lower position is grooved to guide on the lower rod. Any lateral movement of the guide, as it is reciprocated by the cam, is therefore prevented by the lower rod.

Short linkages reduce leverage and provide a more positive action of the traverse lever (D). This lever has two legs extending at approximately a 90° angle to one another. The traverse bar connector is attached to one of these legs. A block (E) attached to the other leg rides in a groove in the traverse adjusting slide. Exact adjustments, either to increase or decrease the traverse length, may be obtained by setting the slide at an angle to the horizontal. An adjusting screw (F) is provided for this purpose.

The traverse motion should be adjusted individually on each side of the machine. Because of the auxiliary traverse motion, it is only possible to set the traverse length by winding yarn on one take-up spool while making slight adjustments as indicated from observing the build of the package. The traverse slide angle adjustment should then be locked. The adjustable traverse connector rod may then be set to centralize the traverse at the take-up bobbins after which setting of the yarn guides may be necessary to correct for individual bobbins.

*Reg. U.S. Pat. Off.

November 1948

23-8-3

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

INCLUDING ATWOOD DIVISION

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

Kinks AND SHORT-CUTS

Static Electricity in Belts Removed Through Pulleys

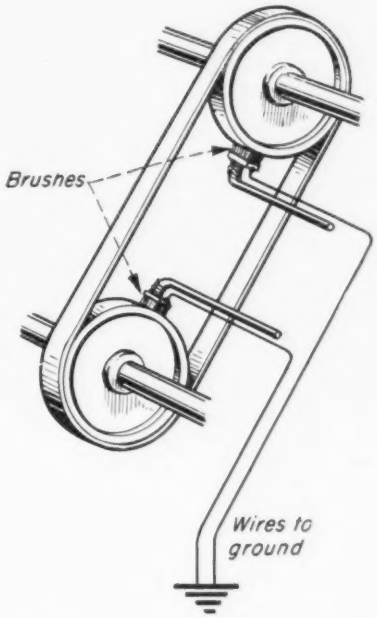
✻ **PRIZE WINNER FOR NOVEMBER**
(August contest)

Static electricity in belts is often troublesome. It is most troublesome with old, dry belts largely because these belts are bad conductors of electricity.

Belt-discharging combs are only partly effective, particularly if the belt is dry. If good contact between the comb and belt is not maintained at all times, small sparks are given off. Sometimes these sparks may ignite lint.

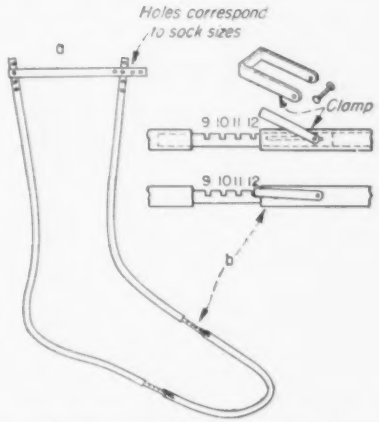
The best way I have found to remove static electricity at this point is through the pulleys. The static is generated by friction between the belt and pulley, and both pulleys that a belt runs on are charged just as the belt is. However, the pulleys are insulated by oil or grease in the bearings, and the static cannot pass off. Bearing trouble sometimes develops from this cause.

To remove the static from the pulleys, mount a brush against each pulley so conductive bristles bear constantly against the pulley, as shown in the sketch. To the base of the bristles connect a ground wire to permit the charges to pass off. Sparking of the belt can be prevented by keeping it moist with belt dressing. (K-995) W. E. Warner, Essex England



***Static electricity** from a belt and pulleys can be removed by means of brushes mounted against the pulleys and ground wires connected to the brushes. Keep the belt moist with belt dressing to aid conductivity and prevent sparking.*

Sock-Measuring Frame Used Also for Inspection



***A sock-measuring frame,** adjustable for several sizes of socks, can be made as shown here. It is convenient for measuring and inspecting socks at the knitting machine.*

An adjustable sock frame, handy for measuring socks at the knitting machine, can be made as shown in the accompanying sketch. The frame also permits visual inspection of the sock because it is not solid, and the sock can be seen through.

The frame is made of grooved or rounded metal (stainless steel, pressed steel, or brass). The metal is bent in the shape of an ordinary boarding form. Adjustments for size can be provided for by inserting adjustable

A $25 SAVINGS BOND FOR YOUR KINK

✻ **You undoubtedly know of some kinks and short-cuts that are helpful to mill operation. Write them down and send them in. We pay promptly upon acceptance—*before* publication. In addition, we award *every month* a $25 Savings Bond for the accepted kink we consider most useful.**

Don't delay. Don't worry about dates. Send in your kink *now*. There is always a Savings Bond prize contest going on!

Don't take time to polish up your writing. We'll do that. Don't waste time to make a finished drawing, as our draftsmen will take over. Just write enough details and do enough drawing (if any drawing is necessary) to make clear to the editors how your idea works and what machine or process it is applicable to. Photos can be sent.

Look over the kinks in this and other issues. They will offer you some useful ideas, and they will also suggest other ideas you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments that are of merit—anything that will help production, improve quality, or cut costs.

Writing kinks is easy. It's fun. It's profitable. Give it a try. *Now.*

RULES OF CONTEST

1. No limit to number of entries.
2. New contest every month. Each contest closes with kinks received last day of the month. Prize winner is published the third succeeding month.
3. All kinks will be paid for on acceptance. Illustrations, when submitted, do not need to be finished drawings (penciled sketches are satisfactory); but they should be clear and complete. Prize awarded to winner is sent to him after publication. Good photos are acceptable.
4. Previously published material is not eligible for prize or publication.
5. Unless you advise to the contrary, we assume that we may sign your name to your kink when published.
6. Judges of the contest are editors of TEXTILE WORLD. Their decision is final.
7. Send your entries to either address:

TECHNICAL EDITOR
TEXTILE WORLD
330 W. 42nd St.
N. Y. 18, N. Y.

ASSOCIATE EDITOR
TEXTILE WORLD
P. O. Box 1641
Columbus, Ga.

sections in the foot and at the top of the form.

These sections can be made as follows:

Leave the top of the frame open. In each side of the frame near the top, drill four holes at points determined by the lengths of a size 9, 10, 11, and 12 sock. Make an inch scale on a flat piece of metal so that inches in width of the top of the sock can be read. In the first inch at one end of the scale, drill a bolt hole to correspond with the holes in the back side of the frame. Now in the 9, 10, 11, and 12-inch spaces on the rule drill similar holes. Place the rule over the holes in the frame and secure it loosely to the frame with wing nuts. This position of the rule is shown at a in the sketch.

Adjustment for length must be made in the top and bottom of the frame foot. This can be done as shown at *b* in the sketch.

Cut the frame in two, so that the toe is separate from the heel. Get two pieces of grooved or rounded metal slightly smaller than that from which the frame is made. One of these pieces is to be inserted under the top side of the frame and the other on top of the bottom side of the frame, so that they form extensions that will slide in the grooves of the frame sides.

In one end of these extensions cut a slot to slide over a pin. Drill a pin hole in the toe part of the frame so that a pin placed in the hole will pass through the slot in the extension. Make a clamp to fit over the frame and be held in position by the pin.

Assemble the clamp and extension by placing the slotted end of the extension inside the grooved frame of the top of the toe part so that the slot corresponds with the pin hole in the frame. Now place the clamp over the frame and insert a pin through the clamp, frame, and extension. The pin will pass through the other side of the extension, frame, and clamp. Rivet the pin on each end, and smooth the ends so that they will not pick the sock. Repeat this operation on the other extension and bottom frame of the toe part. Now weld the other end of the extensions to the heel and leg parts of the frame. Measure the extensions between the toe and heel parts of the frame, and cut slots at proper point for sizes 9, 10, 11, and 12 sock. When the toe of the frame is pushed in and the clamps dropped into the No. 9 slot, the length of the foot should be accurate for a No. 9 sock. *(K-935) H. J. Haas, Martinsburg, W. Va.*

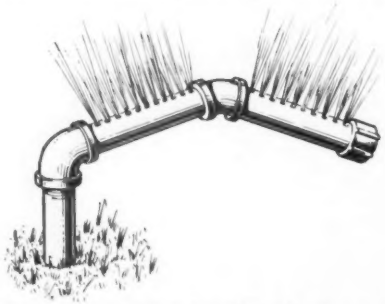
Portable Workbench Stores Tools, Small Parts

Portable tool boxes and workbenches, made of sheet metal, are popular with our fixers. The boxes are divided into several compartments of various sizes so that adequate tools and some small supplies may be stored. They are mounted on casters and are narrow enough to be pushed down an alley between machines.

Each box has a vice mounted at one corner. The top of the box lifts up, as shown here. When it is down, the metal surface of the top makes an excellent workbench.

Each fixer is supplied with one of the boxes, and his name is painted on the left-hand front door. (K-999) Avondale Mills, Sylacauga, Ala.

Mill Lawns Watered With Homemade Sprinklers



Water pipes with holes drilled in them can be used for watering a mill lawn. Make the sprinkler section straight, angular, or circular as needed.

Large mill lawns can be watered easily and well by means of pipe sprinklers made in the shop. Drill small holes at intervals in pipe sections and join the sections as needed for a specific area. The sections can be made angular or circular if needed.

Feeder lines should be run under the ground, and outlets should be provided where they are needed. These outlets should be capped when the sprinklers are not in use to keep dirt out of the line.

When the lawn is to be watered, remove the cap from the feeder-line outlet, screw in the sprinkler section, and turn on the water. *(K-996) H. E. Wenrich, Berwick, Pa.*

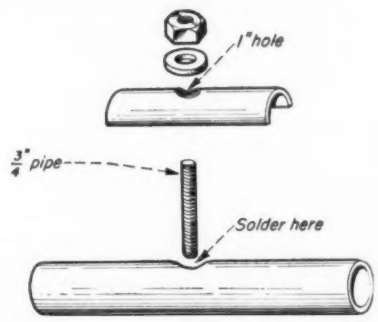
Knitting-Burr Brass Repaired for Emergency Use

Sometimes the slots in the brasses of spring-needle knitting burrs become enlarged and cause the blades to wobble.

The best procedure is to discard the brass and replace it with a new one. However, in instances it may be necessary to keep the brass in service until a new one can be obtained.

To repair a brass for temporary service, use a very fine file on the face of the slotted surface. This procedure will throw a small burr into the blade slots and decrease the gap. A snugger fit between the blade and brass will be provided. Care must be exercised to keep the filing very light. Any considerable cut will reduce the depth of the metal and cause a new blade wobble from another source. *(K-948) Albert M. Young, Jr., Philadelphia, Pa.*

Dent in Copper Pipe Pulled Out With Nut



A dent in a copper pipe can be pulled out with this assembly. Solder the ¾-in. pipe to the dented pipe, and pull the dent out by applying pressure with the nut.

One way to remove a dent from a copper pipe is to pull it out by means of a threaded pipe and nut. The arrangement of parts needed is shown in the accompanying sketch.

Get a piece of pipe slightly larger in inside diameter than the dented pipe is in outside diameter. Split this pipe lengthwise, and drill a 1-in. hole in the center of one half. Now get a ¾-in. copper pipe about 4 or 5 in. long. Thread one end of it as shown in the sketch. You will need a washer and nut to fit the threaded pipe.

Heat the dented pipe and the threaded end of the ¾-in. pipe. Solder the end of the ¾-in. pipe in the middle of the dent, with the ¾ -in. pipe in perpendicular position. When the solder cools, place the split pipe over

Tests—made by an impartial organization—

prove the *easy scourability* of Houghton's Sulfol 275 . . .

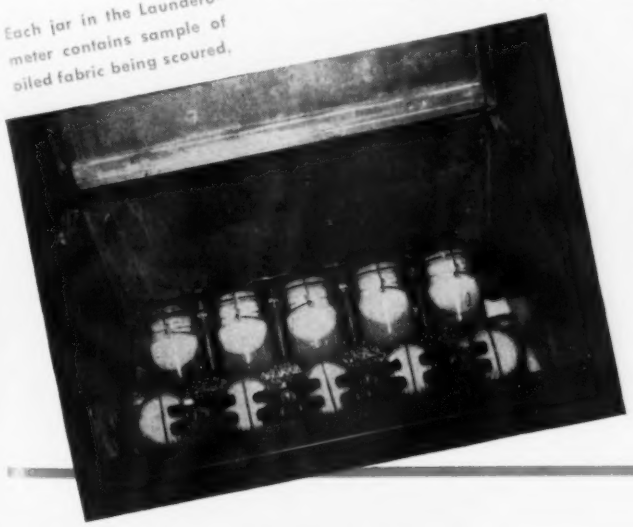
After they had been run by a customer we learned of these comparative scourability tests made between our Sulfol 275—a self-emulsifying wool oil—and competitive oils offered for the same purpose.

Seven oils were tried out. Samples of oil-free fabric were weighed dry, then oiled identically, again dried and scoured with soap and soda ash. Scoured samples were dried and weighed again to determine the oil content remaining.

Among the other oils was a 50-50 blend of mineral and lard oils made to specifications of the National Wool Manufacturers Association.

The amount of Sulfol remaining after the scour was less than 0.5%, while the other oils still stayed in the fabric samples, resisting scouring, in amounts from 1% to 3.5%.

Each jar in the Launderometer contains sample of oiled fabric being scoured.



That's what we mean by "easy scourability."

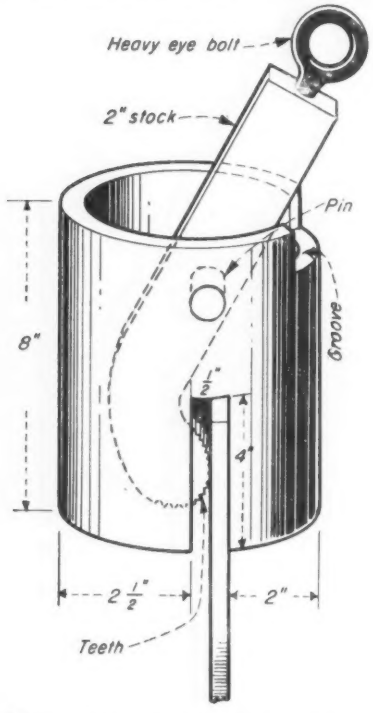
Sulfol 275 has other advantages, too: stable in emulsion, non-oxidizing, practically free from moisture, economical. It provides high spinning efficiency. The Houghton Man can help you test it for wool scouring. Call him, or write —

E. F. HOUGHTON & CO.
PHILADELPHIA OR CHARLOTTE

the perpendicular pipe and lower it against the dented pipe. Now put the washer and nut on the pipe and tighten the nut.

As the nut is tightened against the washer and split pipe, the threaded pipe will be lifted, pulling the dent out of the pipe to which it is soldered. When the dent has been pulled completely out, dismount the assembly and melt the solder that binds the two pipes together. *(K-994)* W. E. Warner, Essex, England

Homemade Holding Tool Used to Lift Sheet Metal



***Lifting sheet metal** with a hoist is aided by the use of this holding tool. When force is applied to the hook, the lower end of the lever presses against the metal in the slot and holds it during the lifting.*

Handling sheet metal with a hoist requires a good holding tool. One way to make such a tool is shown here.

An 8-in. length of 5-in. pipe is used for the housing of the holding tool. Cut a ½-in. slot 4 in. long near the center of one end. The edge of the sheet metal to be handled will be inserted into this slot.

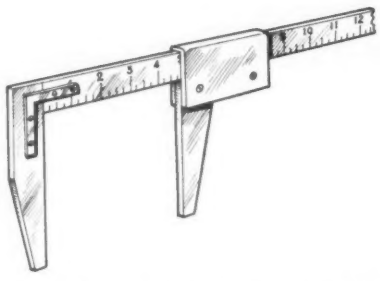
Directly above the slot drill a ½-in. hole in the pipe for a rivet. The holding tool is to be held in place by this rivet.

The holding tool can be made from a 10-in. length of 2-in. stock (round or square). Slightly below the center of this stock drill another ½-in. rivet hole. Bend the lower end of the piece as shown in the sketch, and cut teeth across the knobbed end. If convenient, these teeth should be hardened.

At the upper end of the 10-in. piece, tap and thread a hole for a large eye bolt or hook. The cable of the hoist is to be attached to this hook. Just below the piece, where it strikes the 5-in. pipe when the holder is not in use, notch the pipe so that the knobbed end of the tool clears the 4-in. slot in the lower end of the pipe.

To lift a sheet of metal with the tool, place the edge of the metal in the slot in the pipe, and connect the hook in the holder with the hoist cable. When lifting force is applied to the hook, the holding tool will swing on the pin and the knobbed end of the holder will press against the metal. *(K-942)* Wm. A Mullen, Quincy, Mass.

Cloth-Roll Calipers Made From Yardstick



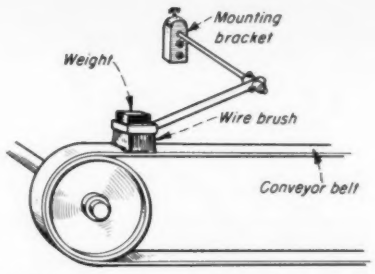
***Cloth-roll calipers,** made from a yardstick, are a quick, accurate means for estimating the weight and yardage of cloth in a machine. The fixed caliper head is pinned to the rule; the sliding head has a sleeve of sheet metal folded over the rule.*

In many spring-needle knitting mills the weight and yardage of the cloth roll in the take-up are judged by the diameter of the roll. Various means have been used to estimate the diameter, but the best and most accurate is an actual measurement of the cloth roll.

Calipers for this purpose can be made from an ordinary yardstick. Either wood or metal is used for the legs. The fixed leg is attached with corner irons, and the sliding leg is fastened by means of a sleeve made of sheet metal. *(K-993)*

Winder Conveyor Belt Cleaned by Mounted Brush

The conveyor belt used on some winders to carry empty bobbins from the operator to a container at the end of the winder becomes imbedded with lint after it has been in use for some time. The smooth pad formed by the lint permits the belt to slip under the bobbins, and pile-ups result. These clusters of bobbins must be broken up by the operator.



***A winder conveyor belt** can be kept clean by a brush mounted as shown here. If a wire brush is used, it should be removed as soon as the belt is clean. If a hair brush is used, it may be left on the belt.*

The belt is usually cleaned by someone standing at the end of the running belt and holding a wire brush against the belt to remove the lint and roughen the belt surface. This operation can be done automatically by the brush attachment shown in the accompanying sketch.

To make the attachment, drill a hole through the brush handle. Insert a round shaft through the hole, and secure the brush in the proper position by placing collars on each side of the handle. Setscrews can be used to hold the collars to the shaft.

The shaft is fastened to the winding machine by an appropriate mounting bracket. The shape and position of the bracket must be adapted to the individual machine, since, it must be placed so that it will not interfere with other parts. If additional weight is needed to keep the brush in proper contact with the belt, a metal weight may be fastened with wood screws to the brush top. However, the weight of the brush should not be so great nor the mounting hole so tight on the shaft that the brush cannot back off if trouble occurs.

The mounting bracket becomes a permanent part of the machine, but the brush is removed after each use by loosening one setscrew and withdrawing the shaft from the mounting bracket.

In most cases, the belt should be cleaned every day or two. *(K-991)* Albert M. Young, Jr., Philadelphia, Pa.

Magnet on Truck Bumper Picks Nails Off Ground

Mill parking lots often have nails or screws scattered around. This is particularly true where a road that runs through the parking area is used by warehouse or yard trucks.

Shift-changing time is a bad time for an employee to have a flat tire.

(A Quick Quiz on modern pH advancements)

Do you know these important facts about BECKMAN pH CONTROL?

Do you know...

That Beckman pioneered modern glass electrode pH equipment?

Until Beckman pH instruments were developed, glass electrode pH equipment was a cumbersome, complicated laboratory curiosity. It was Beckman that pioneered today's simple, compact, highly accurate and completely dependable glass electrode pH equipment!

That Beckman pioneered virtually every major development in modern glass electrode pH equipment?

Such far-reaching advancements as the High pH Glass Electrode . . . the High Temperature Glass Electrode . . . the Unusually Rugged "X-9" Glass Electrode . . . as well as a wide range of other vitally important advancements in glass electrode pH instrumentation, were *all* pioneered by Beckman. *Many of these advancements are still available exclusively in Beckman equipment!*

That Beckman offers the industry's most complete line of glass electrode pH instruments?

Included in the complete Beckman line are instruments specially designed to combine the high precision and wide versatility necessary for advanced research, medical and laboratory applications . . . others that combine maximum simplicity and high accuracy with complete portability for plant and field applications . . . still others that combine maximum simplicity and high accuracy with the plug-in convenience of full AC operation . . . plus *completely automatic* pH equipment for continuous pH indication, recording and control on large-scale processing applications.

That Beckman also provides the industry's most complete line of modern glass electrodes?

Although glass electrode pH instruments are the most efficient pH equipment obtainable, no glass electrode pH instrument is better than the versatility, accuracy and dependability of the electrode assemblies available for use with it.

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That there are so many money-saving applications for Beckman pH control that you may be losing important profits unless you make a complete investigation of your operations?

There is pH wherever there's water, water solutions, moist pastes, sludges, slurries or other moisture-containing substances. And wherever there is pH, chances are the operation can be done better . . . with greater uniformity and less waste at lower overall cost . . . by Beckman-controlling the pH of the various processing operations.

WHETHER you manufacture food products or treat sewage . . . do metal plating or refine crude oil . . . make textiles or process ore — in fact, no matter WHAT *your field of operation . . . if you have not yet determined whether Beckman pH Control can be used to advantage in your operations — possibly is already* BEING *used to cut costs by your competitors — let us study your processes and make helpful recommendations. No obligation, of course.* BECKMAN INSTRUMENTS, NATIONAL TECHNICAL LABORATORIES, SOUTH PASADENA, 12 CALIFORNIA.

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For an informative, non-technical outline of modern pH control — what it is and how it's used — send for this free booklet "What Every Executive Should Know About pH."

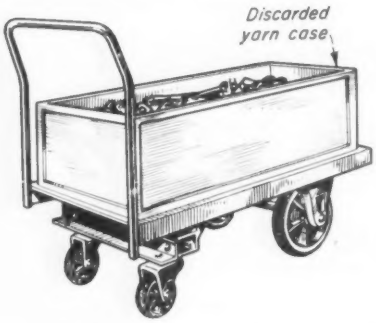
INSTRUMENTS CONTROL MODERN INDUSTRIES

pH Meters and Electrodes — Spectrophotometers — Radiation Meters — Special Analytical Instruments

and anything that can be done toward removing the nails and screws is a good gesture.

An easy way to do the job is to suspend a magnetic bar from the front bumper of a pick-up truck so that the bar is near enough to the ground to pick up small pieces of metal. Have the truck driven over the parking lot once or twice a week. If building is going on near the lot, the tramp metal should be removed daily. *(K-990)*

Use Old Shipping Cartons For Collecting Mill Trash



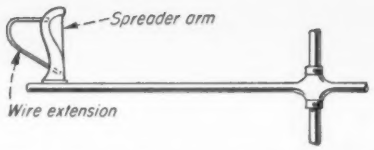
***Old shipping cartons** make good containers for collecting trash. Time is saved by discarding the container along with the trash.*

Most mills have trash cans or boxes into which workers throw paper, broken bobbins, etc. Sweepers usually keep a can or box handy so that trash separated from waste fiber can be disposed of. These cans and boxes must be emptied and the trash handled as dry garbage.

Usually, some time can be saved if the trash is dumped into an old shipping carton and the carton disposed of along with the trash. When the cleaner or sweeper makes his round to collect the trash in the mill, he can place the old carton on a flat-bed truck and dump the trash into it. When he completes his round, there is no more dumping to be done. He just disposes of the carton and trash. *(K-997)*

Cloth Spreader Arms Extended for Bulky Fabrics

Some spring-needle tuck patterns form particularly bulky fabrics. In contrast to a plain fabric that contracts in width when tension on it is released when it leaves the needle line, these tuck fabrics maintain approximately the same width all the way up to the take-up. Standard spreader arms do not extend far enough to fold

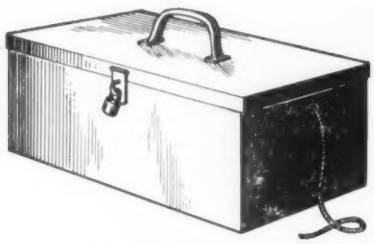


***Odd-shaped rolls** of a bulky tuck fabric can be prevented by wire extensions attached to the spreader arms. Use stiff wire. Drill holes for the wire in the spreader arm, and sweat in the wire.*

the cloth properly so that it will roll up smoothly. Thus, wrinkles and creases are pressed into the cloth, and odd-shaped rolls are formed.

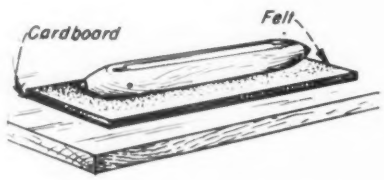
The standard spreader arms can be altered to handle bulky fabrics. An extension of stiff wire formed as shown in the accompanying sketch will serve the purpose. Drill two holes in the spreader arms and sweat the wire in. *(K-992)*

Hole in Tool Box Makes Cord Available



***Harness-mounting cord**, often kept in the loomfixer's box, can be made available to weavers and floor hands as shown here. Drill a small hole in the end of the box, and run the cord through the hole. The fixer can then keep his box locked and also keep the cord available to others. (K-964)*

Felt Board Protects Shuttle on Workbench



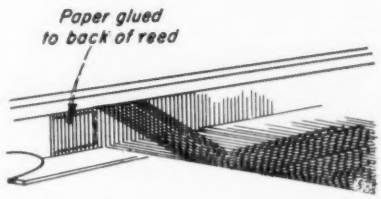
***A shuttle board** made of felt glued to a cardboard or thin wooden base may save much yarn chafing. The felt must be kept clean and free of particles of metal, dry glue, etc.*

Chafed warp yarn often occurs on a loom running a shuttle that has just been dressed by the fixer. At other times the chafed yarn occurs after the fixer has done other work on the shuttle, such as adjusting tension, refurring, shellacking, etc.

The cause of the chafed yarn, of course, is that the fixer has neglected to polish the shuttle. A tiny particle of metal, dried glue or shellac, or any such foreign matter sticking to the shuttle will chafe the yarn.

Care should be taken to handle the shuttle on a suitable surface. It is a good practice to keep a shuttle board handy. A piece of clean felt glued to a cardboard or thin wooden base makes an excellent shuttle board. It should be kept in the workbench in a protected place, and work should be done with the shuttle on the felt. *(K-969)*

Yarn on Shuttle Race Blown Clear of Shuttle Path



***Filling breakage** at the box mouth can often be prevented by gluing a piece of paper to the back of the reed, if empty dents are available. The paper fans the ballooning yarn out of the path of the shuttle.*

Filling breakage near the shuttle-box mouth can often be prevented by the use of a piece of paper as shown in the accompanying sketch.

Many of these breaks are caused by the yarn ballooning out from the box mouth and under the shuttle as the shuttle comes from the box. When the shuttle passes over the yarn, it cuts or chafes the filling.

If the cloth width is less than reed width, so that several dents at end of the reed are not in use, glue a piece of heavy paper over the dents at the back of the reed. The paper prevents air from passing through the reed openings and has a fan-like action as the lay beats back and forth. The air draft created in this manner keeps the yarn blown away from the shuttle path. *(K-967)* *H. E. Wenrich, Berwick, Pa.*

Scum in Humidifier Pans Prevented by Copper Wire

Some of the humidity-control systems installed during and after the war were built up from galvanized sheeting. These systems tend to accumulate scum in the drain pans.

Occasionally, drain pans may fill and require cleaning. They should be hand-cleaned at specified intervals even if the water flow is sufficient. Removing scum is an offensive job

CUT Plant Rearrangement Costs

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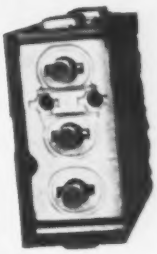
SQUARE D's PLUG-IN DUCT

Production capability of the modern plant is directly related to arrangement of machinery and equipment. Rearrangement may be necessary to take full advantage of an improved process or to permit economical manufacture of a new product.

PLUG-IN DUCT can be installed with a minimum of delay and expense near ceilings, along walls, or directly above machinery to provide power where it is needed. It replaces the more conventional panelboards, which have conduit-enclosed feeders, typical of less modern installations.

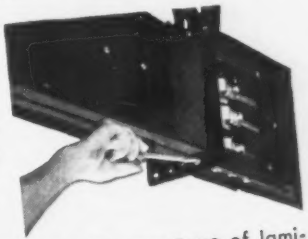
***Write** for Bulletin 5600. Address Square D Company, 6060 Rivard Street, Detroit 11, Mich. Or call your nearby Square D Field Engineer for help in laying out your duct system.*

GET THESE FEATURES



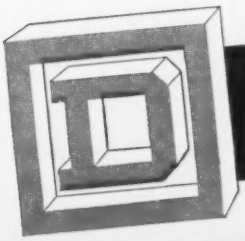
Round Copper Bus Bars provide greater mechanical strength and resistance to short-circuit stresses. Supports are non-carbonizing porcelain.

Plug-in Units of either circuit breaker or fusible switch types are easily installed at 2-foot intervals along both sides of the duct. Plug-in stabs grip the round bus bars with exceptionally high pressure. A hook-type bracket permits rotation of the unit into place. A single clamp screw at bottom holds it there.



Hanger Brackets of heavy gauge steel are two-piece construction to facilitate assembly around duct enclosure. They are suitable for either edgewise or flat mounting of duct structure.

Flexible Connectors of laminated copper join bus bars between sections to provide for expansion and contraction, permit proper alignment and insure tight joints. All bolt heads face outward.



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and the necessity for it should be prevented.

A few short lengths of copper wire placed in the bottoms of the pans will eliminate most of the scum. If the copper wire fails to do the job, bluestone should be tried. *(K-965)*

Bins Used for Storing Unassorted Bolts, Nuts

The average maintenance shop usually has a collection of nuts, bolts, screws, washers, etc. that has accumulated over a period of days or weeks. To sort out the various sizes would often cost more than the material is worth.

However, much of this material can be used again. We have several bins for storing unassorted "hardware." Often when we need a bolt or screw of a certain size we can readily find it in one of these bins. *(K998)*

Softener Prevents Static In Weaving Saran

Weaving and finishing of vinylidene-chloride-plastic woven fabric, which is being used in increasing quantities for automobile seat covers and fashion merchandise, is said to be considerably aided by a product of the Textile Resin Dept., American Cyanamid Co., Bound Brook, N. J., which prevents formation of static electricity. The product is Aerotex Softener-H, originally developed to impart softness to fabrics constructed of both natural and rayon fibers.

According to the Textile Resin Dept., Cyanamid technicians have now developed a method whereby Aerotex Softener-H can be applied to plastic fabrics from a bath at the looms or on a warp beamer. After the initial treatment, static electricity is effectively controlled during both weaving and finishing.

The application is extremely simple. One successful method is to use a trough at the feed end of the loom with a wicking device such as a wad of cotton or a cloth-covered roll. A sufficient amount of the softener is supplied in this way to remove the usual static reaction. If preferred, Softener-H can also be applied as the warps are being made up in the beamer in much the same fashion as has been described.

Softener Preserves Whiteness or Shades

Drucomine A, a new development for cationic finishing aimed at a combination of high softening efficiency with optimum retention of whiteness of white goods or the original shade and light fastness of dyeings, has been produced by E. F. Drew & Co., Inc., Boonton, N. J. This objective is attained by carefully controlled blending of a strongly cationic salt with substances of lesser cationic activity.

Especially effective for cellulosic fabrics, Drucomine A makes possible extreme softening action and maximum lubricity, with minimum effect upon whites or upon the shade of dyed fabrics. Light-fastness of dyestuffs is also maintained.

Used alone or in conjunction with thermosetting resins, Drucomine A is said to lead to highly desirable finish effects.

The new product functions by:

1. Removing residual harshness from fabrics by application in the rinse after dyeing.
2. Imparting a soft, smooth handle to fine fabrics.
3. Reducing harshening or embrittlement when thermosetting resins are applied for shrinkage control, crease resistance, and similar effects.
4. Providing the advantages of cationic finishing agents with maximum preservation of light-fastness and with utmost safety to sensitive shades.

The product is a combination of strongly cationic quaternary salts with balanced fatty derivatives of controlled cationic activity. No fatty acids and no unsaturated compounds are contained. Drucomine A is a concentrated product. Containing more than 50% active material, it is reported to present worthwhile economics in use. The pH of a 1% solution is 6.8, ± 0.3.

Drucomine A is a soft, very light-colored paste. Readily soluble in hot water, it may easily be diluted to prepare stock solutions for simple and economical use.

The finishing agent can be applied in the last rinse; the jig; the print washer; on a quetsch, padder, or mangle; or in conjunction with resin finishes.

Maximum softness is said to be obtained when the amount of Drucomine is about 0.75% on the weight of the goods.

Anthraquinone Vat Dyes Feature Light Fastness

Three new anthraquinone vat dyes have recently been developed by the Dyestuffs Div., E. I. du Pont de Nemours & Co., Wilmington 98, Del. They are "Ponsol" Brilliant Orange RK Paste, "Ponsol" Gray R Paste, and "Ponsol" Red GLL Paste.

"Ponsol" Brilliant Orange RK Paste is said to give a tangerine shade that cannot be reproduced with other anthraquinone vat dyes. It possesses good resistance to chlorine, washing, crocking, hot moist pressing, dry cleaning, and salt-water spotting. It also has good fastness to light and peroxide bleaching and is recommended for fabrics that must withstand weathering or that require a combination of light fastness and good resistance to wet processing. It is suitable for dyeing cotton and viscose rayon in all forms.

"Ponsol" Gray R Paste produces gray shades with a desirable neutral tone. It will serve as a base for a wide range of attractive grays having very good fastness to light. It exhibits generally good resistance to various wet-processing treatments and is suitable for dyeing cotton and viscose rayon. It is recommended for shirtings, industrial uniform cloths, draperies, dress goods, and other fabrics where good fastness to light and laundering is required.

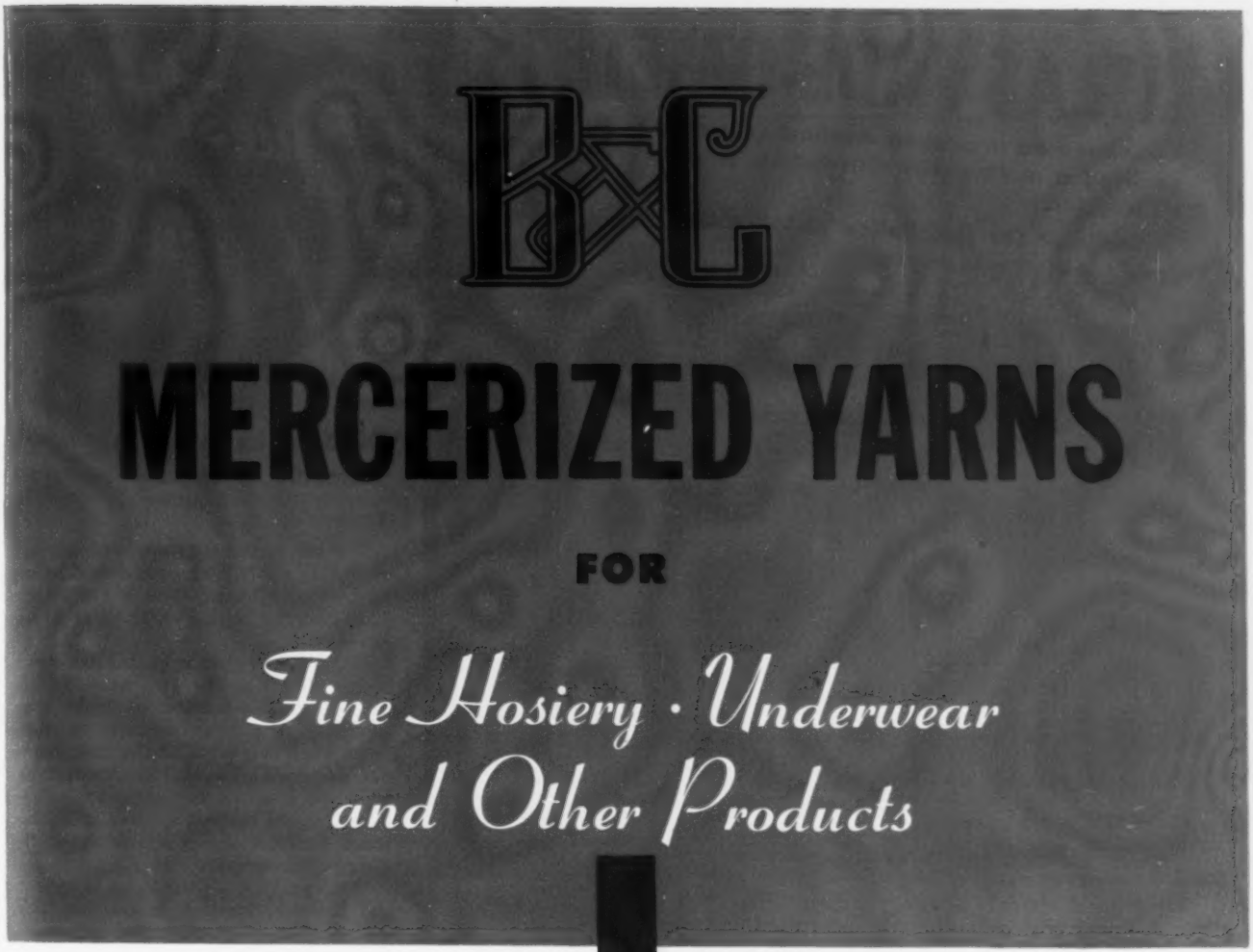
"Ponsol" Red GLL Paste gives pink and red shades with an unusual degree of light fastness. It yields attractive self shades and is useful as a base for light-fast rose shades. It is recommended for upholstery fabrics, drapery materials, and other uses where excellent light fastness is essential to the service required.

Interchem Finishes Releases New Topping

New brilliance and gloss for vinyl film, sheeting, and coated goods are said to be possible by a clear topping offered by Interchemical Corp., Finishes Div., 350 Fifth Ave., New York, N. Y.

This chemical resin coating is free of any tendency to craze or burnish and has the added advantage of lessening the residual tack inherent in plasticized-vinyl compositions, and yet in the course of application it becomes an integral part of the substrata.

The topping is designed to meet a wide variety of production requirements and may be applied by hand or machine methods. It can also be air-brushed, knife-spread, or roller-coated onto the fabric.



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Now have an improved method of specimen suspension assuring a more equal distribution of radiant energy for all samples.

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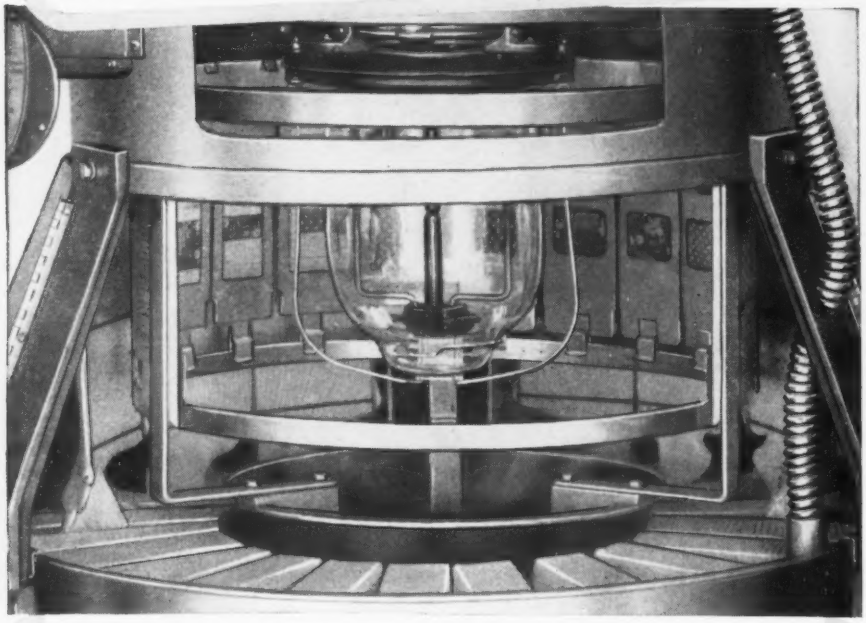

A lower ring engaging the new modified specimen holders supports the specimens during exposure in such a way as to assure a more equal distribution of energy for all samples.

Developed at the request of and in cooperation with the A.A.T.C.C. Committee on Fastness to Light the new holders and lower ring prevent discrepancies in test results caused by unequal distances from the specimen to the light source resulting from improper alignment of the holders.

This new method of suspension improves accuracy of test results since it materially reduces the possibility of deviation of the specimens from the vertical due to the human element or for mechanical reasons.

The lower ring can be installed on all Model FDA and FDA-R Fade-Ometers now in operation, adapting them for use with the new type specimen holders. In addition to the holders finished in baked-on gray enamel we now are also able to supply at slight additional cost the new modified specimen holders fabricated from a dull finish stainless steel.

Write for complete information on this new improved method of specimen suspension for your old machines.

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361 W. Superior Street, Chicago 10, Illinois

The manufacture and sale of the National Accelerated Weathering Unit Model X1A have been assumed by the Atlas Electric Devices Co. Present users of this equipment can secure supplies, repair parts and service from Atlas.

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Questions and Answers

Oil Streaks in Cloth Traced to Spinning Frame

Technical Editor:

We are inclosing a sample of our knit cloth that shows black lines caused by our yarn. This defective cloth is not an isolated case; the black lines occur in all our fabrics.

Our spinning plant is located in a downtown section of the city near the gas works, etc. This location, no doubt, is responsible in a great measure for these black yarns; but much of the fault lies in our long-draft spinning. Oilers sometimes apply too much oil to the top rollers; the oil gets on the drafting aprons and is transferred to the roving as it is being drafted through the aprons.

We have tried a great many detergents and boil-out chemicals in our bleaching process in an effort to remove these lines, but all of these agents have been unsuccessful.

Can you tell us how to remove these lines? (9267)

The black lines in the sample appear to be a mixture of oil and carbon. When woven into any fabric, carbon particles become so imbedded in the yarn that they are almost impossible to remove, even though the oil with which they were originally mixed can be taken out.

Carbon is extremely insoluble. The only way to get it out of a fabric is largely by mechanical action, such as working the yarn or the fabric for a long time in a boil-off bath in which there is a high concentration of detergents and solvents. Even then the end result will probably not be complete removal of the carbon but rather the removal of the particles that are not bound into the yarn as well as others; you obtain only a dimming down of the black streaks.

For detergents, soap or any of the synthetic detergents can be used. Solvents such as pine oil, Tetralin, Hexalin, Hydrapthol, or any good grade of kerosene should be tried.

It is desirable to make a pre-emulsion of these products by vigorously stirring them in a concentrated solu-

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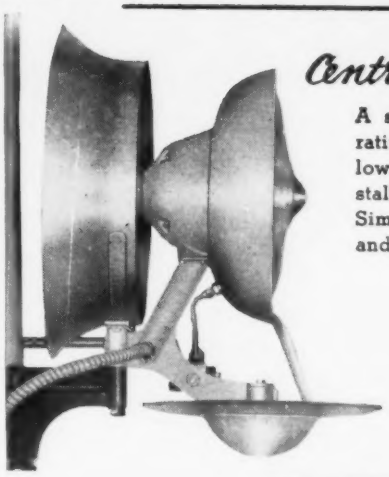

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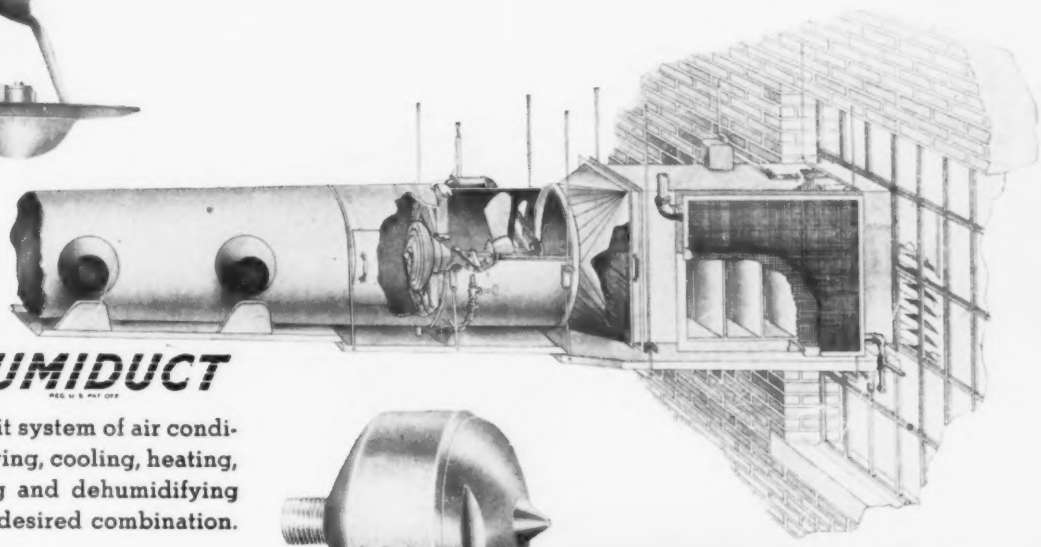

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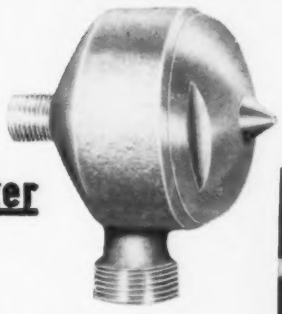

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Write for Bulletin No. 333

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Questions and Answers

(Continued)

tion of the detergent and adding this emulsion to the boil-off bath. Pine oil is rather readily emulsified; the Tetralin, Hexalin, and kerosene less easily so; and the Hydrapthol, which is a prepared emulsion of various solvents, will go in solution quite readily.

About the only way to determine the most effective product is to run experiments with each one. Pine oil and the branded items can be obtained from textile chemical suppliers. You should be able to obtain kerosene locally. A good grade of kerosene should be purchased, as kerosene itself is likely to be contaminated with carbon.

Removing such yarn streaks in the finishing processes is a doubtful procedure. The best thing to do is to prevent them from getting into the goods.

Mills Are Still Going to Larger Rings and Spindles

Technical Editor:

Can you give use a brief account of developments in spinning spindles, ring flanges, and travelers in the United States since 1940? (9269)

Perhaps the two most important trends in spinning spindles are the broader use of large packages and spindle "adapters."

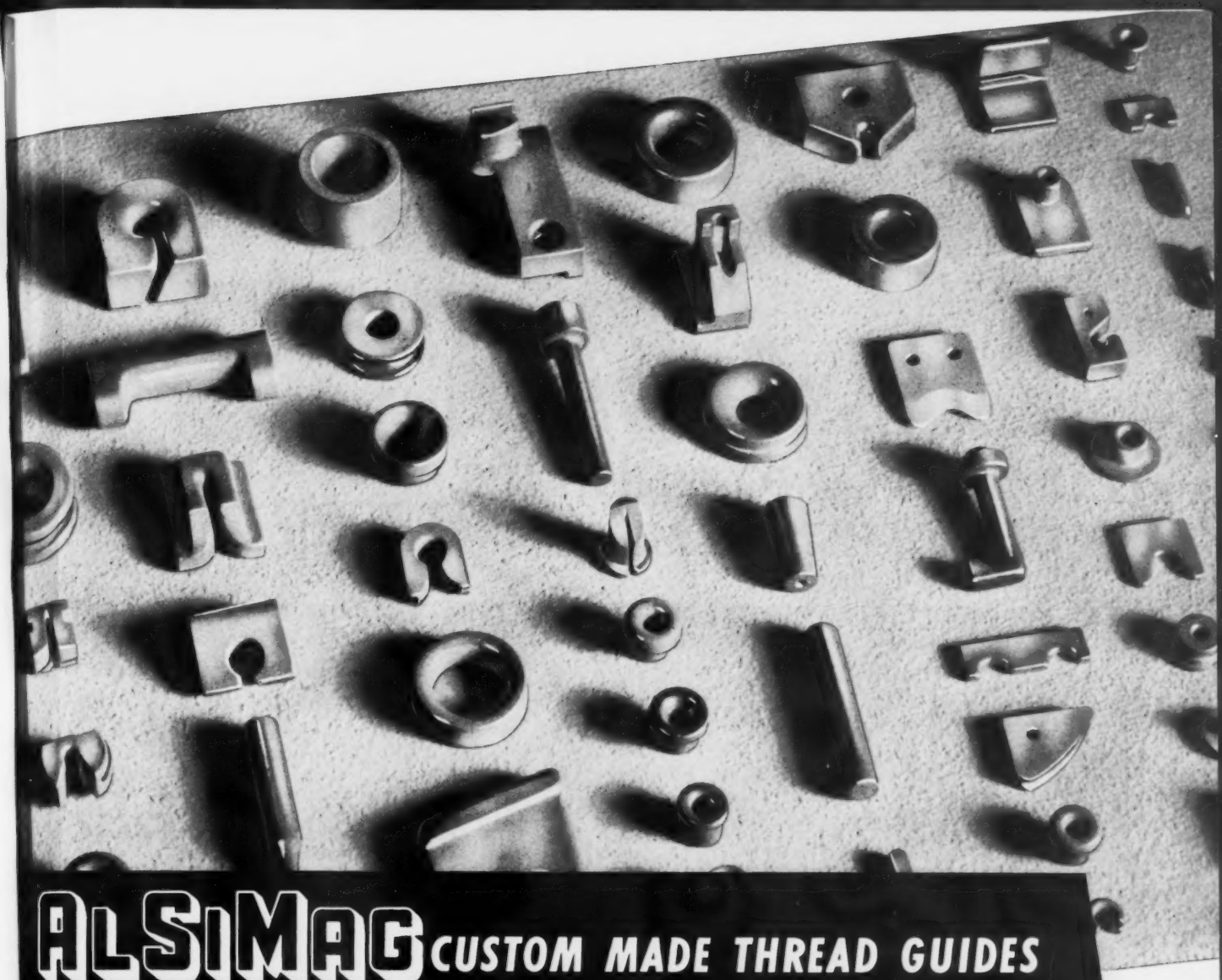
A few mills are now spinning up to 20s yarn on frames equipped with rings 3 in. in diameter and bobbins about 9½ in. in length. The lift on these 9½-in. bobbins is about 7½ in.

The use of this size package, of course, makes the frame considerably harder to doff because of the clumsy size of the wound package. The decrease in doffing, as a result of the longer running time per doff, more than offsets the additional burden of doffing.

The use of the spindle adapter has made considerable headway since 1940. It is a sort of shell that fits over a standard spindle to increase its diameter so that a paper tube can be used instead of a conventional wooden bobbin. Fairly recently, wooden tubes are also being used instead of paper tubes because they are not so easily damaged.

One of the chief features of the adapter is that it grips the bobbin (tube) near the top instead of at the bottom. This grip causes the bobbin to be driven from the top and is said to reduce vibration of the bobbin and spindle. It is possible to reduce greatly the necessity for plumbing spindles at fairly frequent intervals.

Roller-bearing spindles are being



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We work with many of the largest and most profitable textile operations in adapting textile machinery to their special operating problems. We have seen their development and design engineers step up production by special devices and attachments which do a better job, faster, and at lower cost.

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But it is no secret that many improvements and adaptations would not be possible without AlSiMag Custom Made Thread Guides and Inserts. Two important advantages are AlSiMag's extreme hardness, which means long wear, and the AlSiMag's dimensional accuracy and uniformity.

Extreme hardness makes it possible, in many instances, to employ small guides or inserts which will handle even the more abrasive yarns at high speeds and tensions.

Dimensional accuracy permits the use of AlSiMag guides where space is at a minimum or where clearances are quite close. And dimensional accuracy assures a steady, securely mounted guide with ready and accurate interchangeability.

In many instances we hand make several designs in various AlSiMag compositions so that practical running tests can be made. Thus it is possible, at reasonable cost, to accurately predetermine the performance of special adaptations or attachments.

If you have an idea for an adaptation or attachment for your machines, we will be glad to advise with you and make recommendations on AlSiMag Guides or Inserts Custom Made for your specific requirements.

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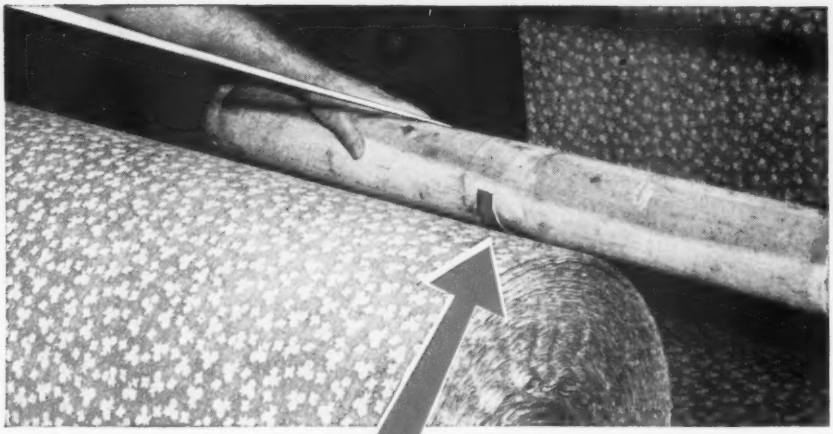

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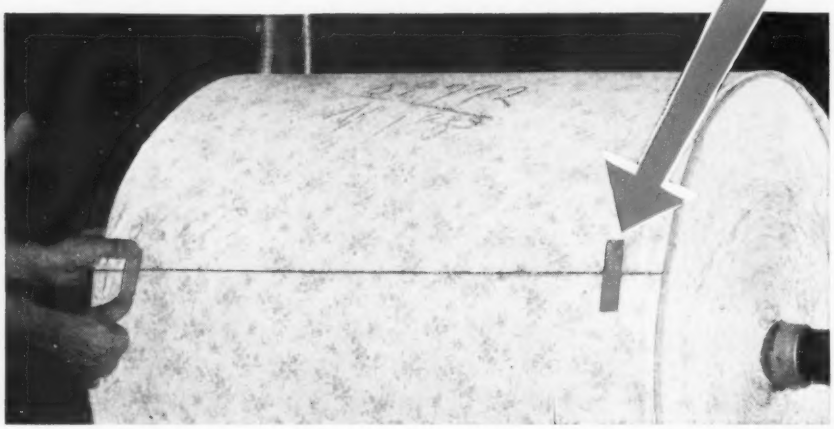
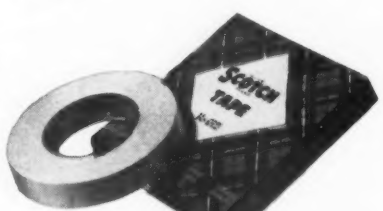


This new "SCOTCH" Textile Tape line has been developed for virtually all operations in a textile mill—from start to finish.

For example, in finishing departments as shown in the first picture above, a wind of finished cloth is quickly and easily started on a shell with double coated "SCOTCH" Textile Tape No. 400; while, in the second illustration, the last lap of cloth is quickly secured on the roll by means of "SCOTCH" Textile Tape No. 916.

Many similar operations—such as holding warp thread ends, identifying roving cans, holding yarn ends on a creel, sealing outer wraps of warp, correcting jacquard cards, etc.,—call for these versatile, pressure sensitive tapes . . . textile tools which save time and money and in many cases improve quality.

Drop us a line today so that we can give you more specific information and details.



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used to a significant extent. Their performance and life are very good. Some mill men hesitate to change over to this type of spindle because of the initial cost, which is nearly twice as much as a standard spindle.

Ring flanges and travelers have been receiving attention, but no remarkable changes have occurred. Much experimenting has been done on different metal treatments, particularly for travelers. Heat and friction resistance are the main headaches.

The traveler is still the limiting factor in spindle speed. As always, traveler speed is approximately a mile a minute. The spindle speed usually ranges from about 8,000 to 10,000 r.p.m., depending on the size of the ring.

Streaks in Broadcloth May Result From Bruises

Technical Editor:

We are inclosing a sample of dyed broadcloth in which longitudinal streaks are noticeable. The sample is made of Egyptian cotton, but we have the same trouble on cloth made of American or Mexican cotton. The streaks also appear in fine goods such as voiles.

It is my opinion that this defect is caused by some ingredient of the size in the slasher that is not completely eliminated in the process of boil-off. We use a simple formula containing cornstarch and "dietilenic" glycol. The gray goods are desized after singeing in a weak caustic soda solution.

After 24 hr. or so in the bin, the cloth is run into kiers for the boil-off. It is then drawn from the kiers in rope form and run through a tight washer, bleached, J-boxed, washed to neutralize, J-boxed, and washed. For mercerized goods, we have tried mercerizing in the gray after singeing and desizing and also after the boil-off. In the dyeing, we have tried pad dyeing, with very bad results, and jig dyeing with the results shown in the sample.

The streaks are more noticeable longitudinally than widthwise; hence, my opinion that the cause is the slasher-size formula or the failure of the desizing process or boil-off. (9270)

Examination of the sample of dyed broadcloth reveals several conditions which indicate that mechanical handling may have something to do with the longitudinal streaks.

First of all, some of the streaks do not follow the same warp ends but run off at a slight angle. This condition indicates that the cloth may have been bruised slightly while being processed in rope form. Bruise streaks, if very light, can be covered up by the mercerizing process; but the more severe bruises will not respond to this

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MANUFACTURERS' BULLETINS

A REVIEW of the month's outstanding trade literature. Items are listed one month only—no repeats.

Free FOR THE ASKING

1. **Double-deck twisters** for accurate, high-speed twisting of silk, rayon, nylon, etc. of the finest of deniers are described in a new illustrated bulletin issued by U. S. Textile Machine Co. Designed for headless or take-up spool packages, both the Jumbo (8- to 16-oz. packages) and Acme (up to 10-oz. packages) machines are shown.

2. **Cloth conditioning** to restore natural moisture content removed by a rotary press or dryer is described in a leaflet prepared by Sjostrom Machine Co. Elimination of shadiness and improvement of handle, appearance, and finish are featured.

3. **An improved rib body machine,** the PR-13, designed to produce at greater speeds, is discussed in a folder prepared by H. Brinton Co. Details of construction and pictures of fabrics knitted on the machine are included.

4. **Picker stop motions** for measuring a lap exactly to length are described in a bulletin issued by Aldrich Machine Works. A discussion of the relation between length and weight variation is interesting.

5. **Acetate slashing** with sodium Stymer, a synthetic sizing agent, is easier and more uniform, according to a technical bulletin released by Monsanto Chemical Co. Size-bath preparation and other detailed specifications are also featured.

6. **Are you using the right cotton?** The Cotton-Textile Institute, Inc., has issued a pamphlet which illustrates the methods of training of its Div. of Technical Service for cotton-fiber technicians for the textile industry.

7. **Rubber products,** natural and synthetic, for the textile industry are described in a folder issued by Dayton Rubber Mfg. Co. Carding, drawing, spinning, winding, slashing, and weaving products are included.

8. **Electrical tables** and formulas are compiled in convenient form in a small booklet issued by Westinghouse Electric Corp. Terms, wire sizes, symbols for apparatus, and power formulas are included along with much other information.

9. **Doffing trucks** of vulcanized fiber, including a truck with an adjustable raised platform, are described in a bulletin prepared by Continental-Diamond Fibre Co.

10. **Counting on your fingers?** The Productimeter, a versatile textile counter, is thoroughly described in a folder issued by Durant Mfg. Co. Several standard models are pictured and a detailed description of the pick counter is given.

11. **Thread-cutter damage** caused by vibration-loosened loom parts can be eliminated by use of Esna nuts, according to a bulletin issued by Elastic Stop Nut Corp. of America. Companion bulletins describe applications to picker sticks, shuttles, and spinning frames.

12. **Special textile belts** made of cotton for cotton-mill use are the subject of a folder released by Gates Rubber Co. Advantages of belt life and more uniform yarn are listed.

13. **A new conditioning device** for cones, packages, and spools while on the winder is described in a Kearny Mfg. Co. Inc., bulletin. Another member of the Hygrolit line, the device is said to eliminate rust, dust, and mildew.

14. **1-2-3, A-B-C**—these and all other numerals and letters are included in the tag marker of which specifications are given in a recent Markem Machine Co. bulletin. Four styles of the machine are detailed.

15. **Flat leather belting** made of Tannate leather is the subject of a folder issued by J. E. Rhoads & Sons. A comparison with oak-tanned belts is given.

16. **Dyeing yarn** in every form can be accomplished with special machines which are described in a brochure prepared by Smith, Drum & Co. Details of dyeing on tubes, springs, inserts, and beams are given in the 19-page booklet.

17. **Warp-preparing** machines which are claimed to reduce overhead and to increase production and quality are featured in a folder issued by Zellweger, Ltd. Tying, pinning, leasing, drawing-in, denting, and knotting machines are described.

18. **Industrial-lighting** equipment specifications for buyers, specifiers, and sellers are compiled in a guide published by RLM Standards Institute. The booklet contains detailed specifications for 14 of the most commonly used incandescent and fluorescent lighting units.

19. **Boxing of textile products** is depicted in a folder issued by Acme Steel Co. Both the cap style and the 2-piece style box are pictured.

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20. Automatic ceiling cleaning and the advantages claimed for the system are covered in a bulletin prepared by the American Monorail Co. Room appearance, labor savings, and reduced fire hazards are discussed.

21. A vacuum extracting box with a patented, reinforced adjustable slot is the subject of a recent Birch Bros. circular. The unit may be built into several finishing machines, according to the release.

22. A spinning-frame drum-separator is paid glowing tribute in testimonials reprinted in a folder issued by Columbia Supply Co. Called the Ezy-Apart, the unit is also pictured and described.

23. Silence is the byword of their new silent chain drive, according to a circular issued by Precision Gear & Machine Co. The drives are designed to replace cylinder and jack gears on spinning and twisting frames.

24. Custom-built for the textile industry are the quick-clean motors described in an Allis-Chalmers bulletin. Sketches showing how lint and fly pass right through the housing are featured.

25. Chemical-resistant coatings of Duramite Ph are described in detail in a folder prepared by Morton Chemical Co. A thorough explanation of the new coating system is included along with application instructions.

26. Rings for spinning and twisting are pictured and their manufacture depicted in a folder published by H & B American Machine Co. Six types of rings are featured.

27. Application and properties of vat dyes is the subject of a recent Calco Technical Bulletin. Complete tables on fastness properties take up a part of the 39-page publication.

28. Drying and singeing machines which operate on the direct-fired principle are described in a folder issued by Industrial Heat Engineering Co. Details of cloth dryers, singers, warp dryers, and tenter dryers are given.

29. New standards for hand extinguishers on cotton process fires are announced in an illustrated bulletin recently published by the Associated Factory Mutual Fire Insurance Cos. A unique feature is a protection table which lists in detail the particular fire hazards of the various processes.

30. Building maintenance costs high? A folder prepared by Stonhard Co. shows how any handy man can make expert repairs, thus reducing mill expenses. Maintenance problems from foundation to roof are shown in the folder.

31. "Physical Properties of Synthetic Organic Chemicals" in a revised edition has been issued by Carbide & Carbon Chemicals Corp. The 12-page booklet contains data on 185 chemicals in tabular form.

32. Quilting parties used to be quite the thing—but a multi-needle quilting machine can do the job more efficiently. The machines are described in a folder published by Pathe Tool Mfg. Co., Inc. Details of fabrics produced, needle spacing, and machine operation complete the description.

33. Dependably uniform blending by accurate weighing is discussed in a W. D. Dodenhoff Co., Inc., bulletin which features the Fiber-Meter. The new feeder handles up to 500 lb. of fiber per hour, according to the bulletin.

34. Baskets, hampers, and trucks are illustrated and described in a new brochure prepared by C. R. Daniels, Inc. The units discussed are widely adaptable to factory production and materials handling in the textile industry.

35. "Quality Is Your Business" is the title of an interesting pamphlet recently issued by Wallace Clark & Co. All phases of a quality-control program are discussed.

36. Anchoring of textile machines with Unisorb felt is the theme of a pamphlet published by The Felters Co. The entire pamphlet is devoted to the textile field, and it covers all types of textile machinery.

37. For users of Superlock machines, Wilcox and Gibbs Sewing Machine Co. has prepared an instruction book and parts list, Form 804.

38. Regain of raw cotton and gray cotton yarns can be measured with the Shirley moisture meter, according to a catalog which is available from The Record Electrical Co., Ltd. Details of construction, working principle, and method of operation are shown.

39. Ion-exchange principles are discussed in a new booklet which has been published by National Aluminate Corp. Three sections of the booklet cover ion-exchange principles, technical data on materials available, and notes on operations which are using ion exchangers.

40. Fluorescent dyes—their fields of application and other technical data—are discussed in a recent issue of Calco's *Dyelines and Bylines.* The interesting article describes the four broad applications in detail.

41. Wooden beam heads, warper beams, and warping machinery for all kinds of fibers are shown in a comprehensive booklet available from Allen Co. Detailed isometric drawings of several of the products are featured.

42. Special features of their latest model revolving-flat-type card are described in a catalog published by Platt Bros. Of particular interest are the sections on more accurate settings and on elimination of undesirable air currents.

43. Coloring synthetic plastics and resins is the subject of the leading article in the latest issue of *Dyestuffs,* a National Aniline Div. publication. Thermosetting and thermoplastic resins are separately discussed.

TO GET MORE INFORMATION

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TEXTILE WORLD, New York, N. Y. (Nov., 1948)

Write in box the number of item describing one catalog wanted. ☐

Coupon void if not filled out completely

Name of my Mill .....

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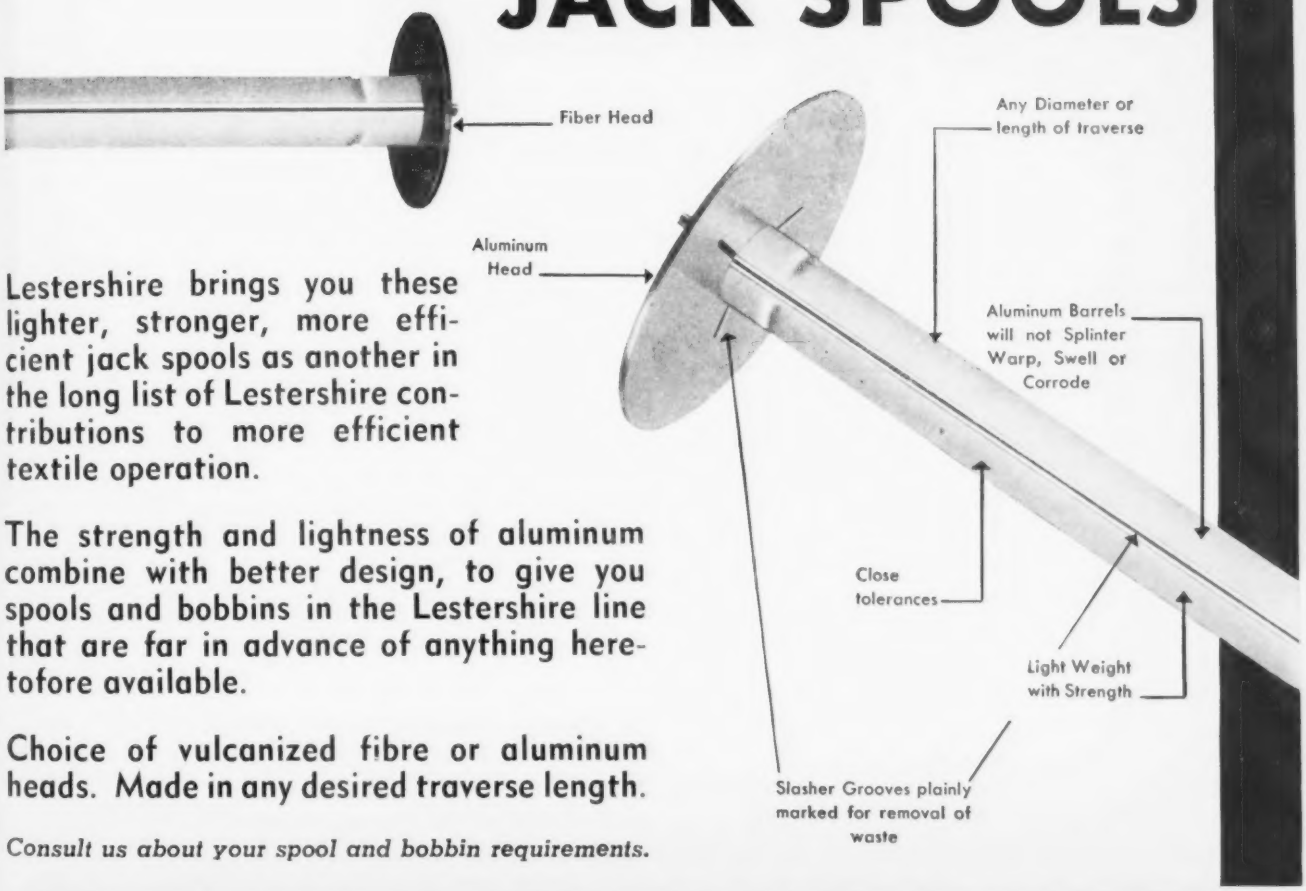
TEXTILE WORLD, New York, N. Y. (Nov., 1948)

Will Not Splinter, Warp or Corrode

LESTERSHIRE *Aluminum Alloy* JACK SPOOLS


Fiber Head
Aluminum Head
Any Diameter or length of traverse
Aluminum Barrels will not Splinter Warp, Swell or Corrode
Close tolerances
Light Weight with Strength
Slasher Grooves plainly marked for removal of waste

Lestershire brings you these lighter, stronger, more efficient jack spools as another in the long list of Lestershire contributions to more efficient textile operation.

The strength and lightness of aluminum combine with better design, to give you spools and bobbins in the Lestershire line that are far in advance of anything heretofore available.

Choice of vulcanized fibre or aluminum heads. Made in any desired traverse length.

Consult us about your spool and bobbin requirements.

LESTERSHIRE SPOOL & MFG. CO.
JOHNSON CITY, NEW YORK

Branch Offices With Technical Service

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R. B. DORMAN—1000 Peachtree St., Atlanta, Ga.
FRANK STEERE—17 Kilburn Ave., Saylesville, R. I.
ODELL MILL SUPPLY CO., Greensboro, N. C.
GREENVILLE TEXTILE SUPPLY CO., Greenville, S. C.

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22 lbs. machine parts goes 700 miles for $4.73.
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30-lb. carton of new fashions goes 500 miles for $4.61.
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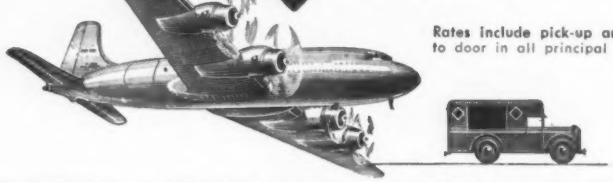

Rates include pick-up and delivery door to door in all principal towns and cities

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Questions and Answers

(Continued)

treatment and will subsequently dye up as dark streaks.

With fabrics such as high-count broadcloths and voiles, it is possible to crease them so severely that the creases will take more dye than other parts of the cloth. Rope preparation may cause permanent crease marks that often run for yards in a straight line. A crease of this sort really amounts to a light bruise, and any fabric made of fine yarns of relatively high twist is extremely sensitive to bruises and creases.

There also appears to be a considerable amount of "thick and thin" places in the goods. The thick places will show up darker than the thin areas, since there is more fabric and consequently a higher concentration of dyestuff at these points.

You should check very carefully the tension in your tight-strand washers, the condition of the top and bottom rolls, and the condition of all squeezer nip rolls. The density of any nip roll is important, as a hard rubber roll will easily bruise a fabric of this sort. A relatively soft top rubber roll on a squeezer is to be preferred rather than an extremely hard roll.

Rubber rolls will change in hardness, because of surface oxidation and other causes, after they have been in service for some time. When they have been turned and the hard outer surface removed, they will be less likely to cause bruise marks.

The size formula probably does not have much to do with this condition, since nothing but cornstarch and what must be diethylene glycol are used. Both are readily removed from the cloth by the preparation as described. You could easily check this point by testing the goods with iodine after preparation.

Mercerizing after the boil-off is probably the best way to cover up bruise marks previously made, but again all nip rolls on the mercerizer should be carefully checked to be sure that the cloth is not being further creased or bruised in this operation.

Preventing Mildew in Yarn Is Not a Difficult Job

Technical Editor:

What provisions are necessary to prevent mildew affecting yarn?

We propose to construct a building without windows, use fluorescent lighting, and by air conditioning maintain a maximum temperature of 85° F. with a maximum relative humidity of 80%.

How many air changes will be needed

NEW HIGH-SPEED BLEACHING BOX FEATURES:

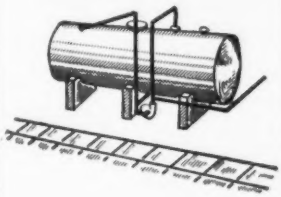
1. Higher bleaching speeds —limited only by washer capacity.

2. Improved piling mechanism—positive pulling draw reels remove cloth faster than previous designs.

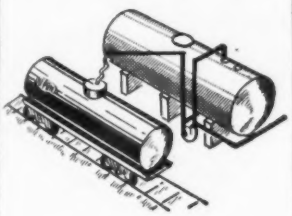
3. Increased capacity—more cloth can be handled without increase in the size of the equipment.

4. Reduction in floor space requirements—overall length of J-Box has been reduced by 25% or more.

FOR GREATEST ECONOMY, CONSIDER:



TANK STORAGE AT THE MILL



TANK CAR DELIVERIES

If you need 5000 lbs. or more of "Albone" 35 (35% Hydrogen Peroxide) per month, you'll find a storage tank installation to be economical.

SEND FOR THIS NEW BOOK!

It shows typical continuous bleach layouts designed to fit the requirements of various plants. For a copy just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Del.

THEN...

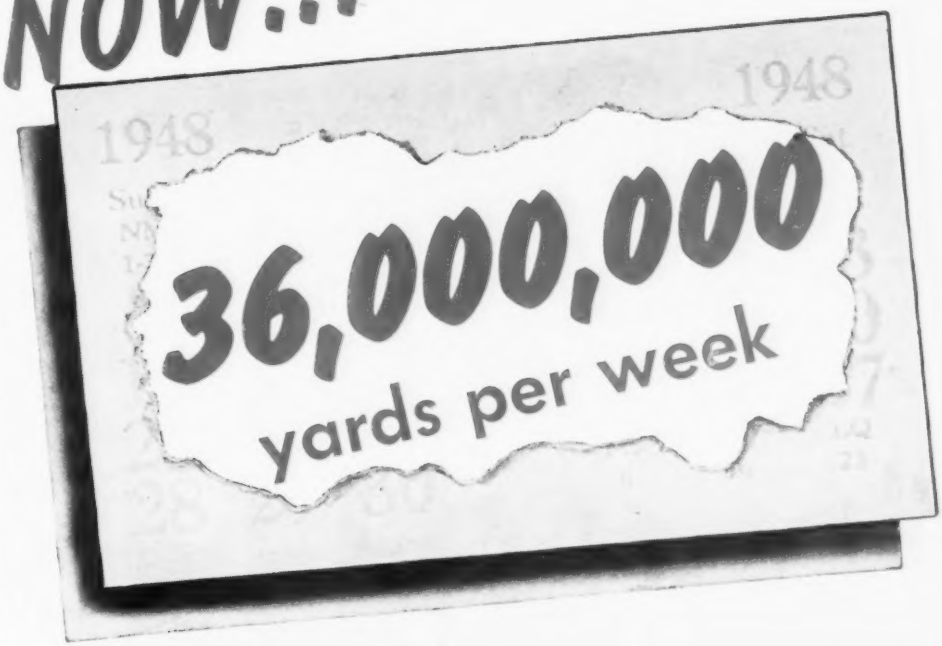
1939—500,000 yards per week

1945—4,000,000 yards per week

1946—6,000,000 yards per week

1947—20,000,000 yards per week

NOW...



BLEACHED IN DU PONT CONTINUOUS PEROXIDE SYSTEMS

That's the latest total production figure from present installations. And, as more and more mills change to this fast, economical bleaching system, the figure will grow larger and larger. Right now continuous bleach construction is underway in more mills.

That's because the Du Pont System is gaining increasing recognition as the right answer to modern bleaching needs. It's continuous. It's speedy. It permits quality production. It's most economical. It's adaptable to mill requirements.

We'd like to tell you more about how the Du Pont Rope and Open-width Systems can fit your bleaching needs. Du Pont bleaching experts will be pleased to work with you, to survey your plant, study your requirements, help you select the proper equipment and assist you in many other ways. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

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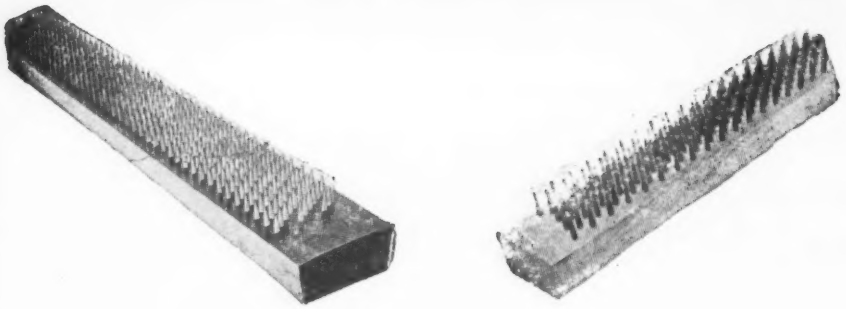
DU PONT CONTINUOUS PEROXIDE BLEACHING

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*



What type PINS and LAGS do you need?

NEW DEVELOPMENT MAKES THEM BETTER

Crabb Pins and Lags are developed by the new, modern method—micromax heat-treating equipment, used exclusively to produce Pins having any degree of hardness you require, *with absolute uniformity!*

Crabb Lags may be steel backed and steel faced, while other types, steel faced and one side, also laminated steel.

We produce stainless steel as hard as carbon pins, passivated to remove all exterior carbon, leaving the stainless surface. New polishing methods give extra high polish to the Pins.

Pins are carried in stock in a wide variety of types and sizes —immediate delivery on most orders.

Other Crabb products that offer you many advantages are *Cylinders, Combs and Hackles*—modern, sturdily constructed, long lasting.

Our technical staff is available and ready to help you with operating problems involving these products. Write for quotations . . . or for one of our representatives to call on you!

William Crabb and Company

301 Third Ave., Newark, N. J.

to avoid difficulties from mildewing? (9268)

The best way to prevent yarns from mildewing is to keep them dry and, when in process, keep them moving from one operation to another so that they do not remain an unusual length of time in the wet state.

Various mildew preventives, such as phenol and orthochlorphenol, can be introduced into the slasher size to help prevent yarns from mildewing in storage.

If mildew attacks the yarns, either a peroxide or chlorine bleach will remove the discoloration; but these yarns should be used only for whites, as they will usually dye heavier at the point of degradation.

The number of air changes is not critical, so far as preventing mildew is concerned. You should not have much mildew trouble if you store the yarn dry in a reasonably well ventilated area.

Resist Methods on Wool Are Not Very Satisfactory

Technical Editor:

How can red woolen yarn be prevented from bleeding onto white woolen yarn woven into the same piece of cloth? The discoloration takes place in fulling and washing.

We have found that the use of chrome in dyeing the red stock will reduce bleeding, but this method is not satisfactory because the chrome also reduces the brilliance of the red color.

Acid dyes, even after bleeding, hold their brilliance.

We are able to remove some of the stain by running the cloth through a light stripping bath in the piece dye kettles. However, this method does not remove all the stain; and it adds considerably to our cost. (9256)

In general, resist methods on wool are not entirely satisfactory. It may be more satisfactory to use a faster dye.

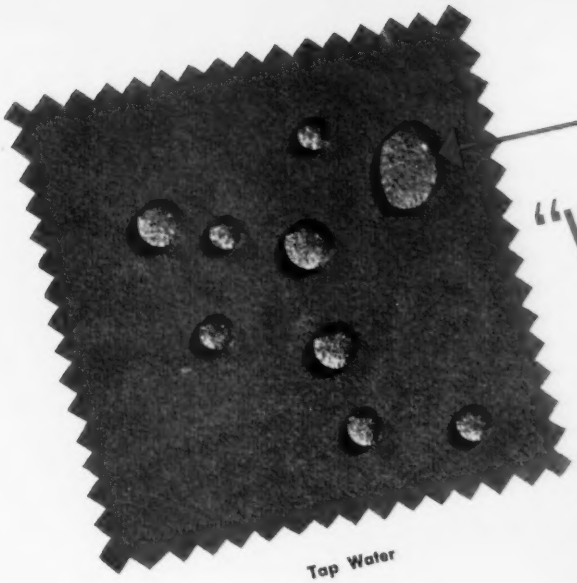
A resist method that can be used on colored and white wool is as follows:

Boil the goods 45 min. in a bath containing 15% tannic acid. A good, light-colored tannin must be used. Cheaper grades are usually quite colored and will dull the wool.

Add 5% muriatic acid to the tannin bath, and work the yarn in the cooling bath for 15 min. Wring or extract the yarn, but do not wash it.

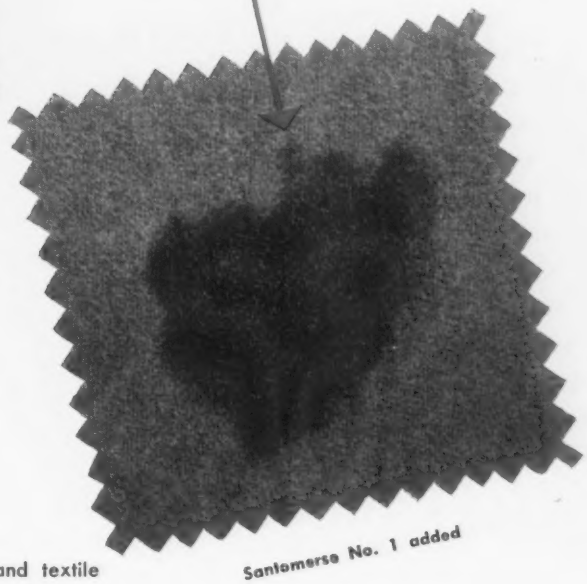
Enter the goods into a fixing bath containing 5% tin crystals (stannous chloride) and 2% muriatic acid. Hold the bath at 120° F. for 15 min. Wash the goods thoroughly, and soap them well at 120° F.

This final soaping may be omitted, but it leaves the yarn in a softer condition.



Tap Water

"wet" becomes "wetter"



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with *Improved Santomerse No. 1*

Wetting out processes with Santomerse No. 1 in dyeing and textile manufacture are *efficient* and *economical*. Penetration is more thorough ... time is saved ... costs go down.

Even a small percentage of Santomerse No. 1 breaks the surface tension of either hard or soft water so that it goes deeply and quickly into the fibers of cotton, linen, wool, rayon or silk.

Because of its high detergency and the ease with which it rinses, Santomerse No. 1 is amazingly efficient as a scouring agent for all textiles. It never injures fibers because it is neutral in character. It is chemically stable, hence may be used in either alkaline or acid operations.

In dyeing, Santomerse No. 1 may be used to wet out materials before they go into the dye. Or, Santomerse No. 1 may be added directly to the dye bath. Either method speeds up operations and delivers a deep and even application of color.

Look into the possibilities of Santomerse No. 1 as a means of improving your textile processing and reducing your costs. For complete details, contact the nearest Monsanto Sales Office, or write for Bulletin No. P-118. The coupon is for your convenience. MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

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MATERIAL HANDLING News

CLARK

a BIGGER exhibit of BETTER machines TO DO MORE WORK AT LOWER COST

—the Third National Materials Handling Exposition

The 1949 Exposition will be held in Philadelphia January 10 through 14 and will constitute a broad view and preview of "industrial history in the making." It will be the most convincing demonstration of all time that the Science of Materials Handling is eternally new—that it is a never-ending process of evolving new and better methods and equipment to the end that our National economy can shake off the shackles of old, inefficient and time-consuming practices which have become prohibitively costly both in human energy and in dollars.

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INDUSTRIAL TRUCK DIV., CLARK EQUIPMENT COMPANY BATTLE CREEK 27, MICH.
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

THE NATIONAL GUARD DEFENDS AMERICA—JOIN NOW

Round Table

(Continued)

(Continued from page 172)

Regaining skill and speed on the job is actually the easiest part of the returnee's adjustment. Yet this angle receives most attention, probably because it seems more closely tied in with production and profit. The real question is this: Will the employee regain his confidence, courage, and enthusiasm after the period of low morale in the hospital? The first week back at his old job has a lot to do with the answer.

Employers generally insist on the hospitalized worker taking sufficient time for what they suppose is "full recovery." In actual practice, few wage earners can afford such a luxury, especially when full and complete return to normal health may require from several weeks to several months.

Probably a more intelligent course would be to have workers come back as soon as they are physically able to do so and then lengthen the period during which they receive a lighter work schedule or other advantages.

Long delays in starting to earn again can only complicate matters. Self-confidence goes down the scale, fear and anxiety increase, and loss of income adds its own woes. Insisting on full recovery at home may bring back to the mill an employee who has lost most of the good points that once made him valuable.

Thousands of low-efficiency workers are handicapped by physical troubles about which the boss knows nothing, or nearly nothing. An operation frequently clears up the difficulty, and the employee returns to the mill with greater possibilities than he previously had. After a while, his endurance may increase well beyond the old limits. If he had been worrying about the operation, the accomplished fact brings a release and a change of attitude. Mill executives who study returnees with an eye on possible improvements are sure to find some surprising cases.

When a worker shows signs of new enthusiasm and interest following an operation, try him out with additional responsibility or on tasks a trifle above his previous capacity. The response will prove beyond question that after a dreaded operation is over, some persons actually grow and develop from many angles. Encourage this attitude for the good of both the worker himself and the mill.

Management that gives careful thought to post-operation returnees can fit the great majority of them back into their old positions with minimum loss of efficiency. Additional value comes as a bonus from the occasional

UNION SPECIAL

Setting the PACE!

THE machines you order now are the tools you will depend on for tomorrow's profits. Now being produced in steadily increasing numbers, Union Special's new *LOCKSTITCH* is truly A MACHINE WITH A GREAT FUTURE! It's the machine that's designed and built to set the pace in the race to cut costs . . . boost output . . . improve quality. If you are planning for *modern* production, make the new Union Special *LOCKSTITCH* a part of your plans!

The LOCKSTITCH

● Performance plus! Better . . . faster . . . smoother . . . everything you want! Ask for a copy of bulletin No. 258 describing Union Special's new streamlined *Class 613000* single needle *LOCKSTITCH* machines.

- **SMOOTH, EFFORTLESS SPEED** — Made possible by new lightweight needle bar . . . magnesium take-up . . . needle bearings . . . scientific counter-balancing . . . ultra-finished bearing surfaces.
- **QUIET, DEPENDABLE OPERATION** — Isolated from table board by new mounting method. Design includes new automatic lubrication for the lower mechanism; screw-conveyor oil feed for the hook-raceway — an exclusive Union Special feature providing positive controlled lubrication to the hook without a pressure pump; quick, external adjustment for hook oil flow regulation; and new oil level sight-gauges.
- **STYLES.** The new streamlined *Lockstitch* is being built in "low throw" *Style 61300 H* with 1-9/64" needle bar travel for work on light and medium weight materials and "high throw" *Style 61300 J* with 1-13/64" needle travel for medium to medium heavy work.

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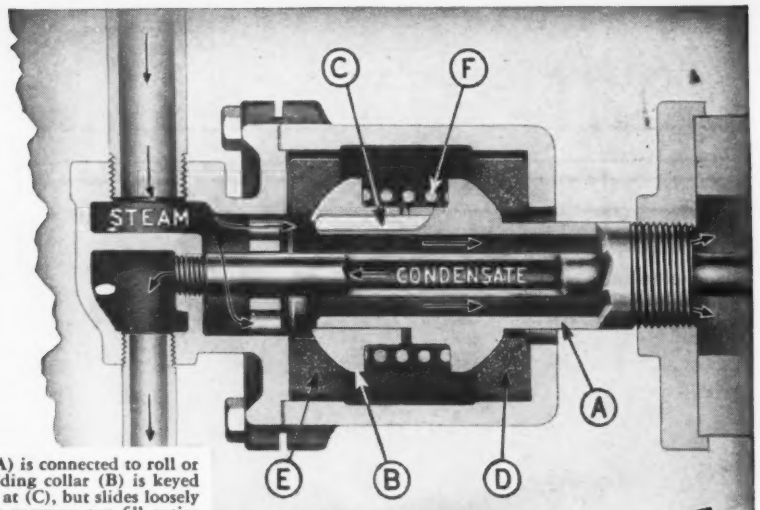
INDUSTRIAL SEWING MACHINES



Nipple (A) is connected to roll or drum. Sliding collar (B) is keyed to nipple at (C), but slides loosely over it so pressure can fill entire housing. This pressure becomes the sealing force, by pressing seal ring (D) tightly against nipple. Both seal ring and bearing ring (E) are of special carbon-graphite, which eliminates oiling and packing. Spring (F) is for initial seating only. Type B Joint illustrated; other types, sizes for all needs.

...it's the biggest little trouble-saver in the mill...

In terms of physical size alone, the Johnson Joint could hardly be called big machinery. But in its ability to save time and trouble, and promote plant efficiency, its stature approaches anything the industry has ever seen.

The Johnson Joint was designed to go after the old stuffing box and steam fit troubles in a business-like way, and it literally knocks the stuffing out of them. There's no packing of any kind. There's no oiling required, ever. There's no adjusting — the higher the pressure, the tighter the seal. There's little to fear from misalignment—with provision for both lateral and angular movement built right in. Note besides how neatly it provides for more efficient syphon drainage, through the same head that admits the steam.

In dollars and cents, what does all this add up to? Well . . . enough at least to pay the cost of switching over to Johnson Joints in just a short while. Enough certainly to make the Johnson Joint too big to overlook.

Write for literature and the name of your nearby Johnson representative.

JOHNSON Rotary Pressure JOINTS

THE JOHNSON CORPORATION
814 WOOD STREET
THREE RIVERS, MICHIGAN

Round Table

(Continued)

employee who leaves the hospital with renewed vitality and eagerness to succeed. *(R-443)*

Yarn-Numbering System Proposed by British

The British Textile Institute has long tried to interest textile men in the possibility of a yarn-numbering system capable of universal application. In 1945, a special conference was held in Manchester to examine existing and suggested systems. The Unification of Testing Methods Committee has now put forward the following proposal for a universal numbering system:

For fibers and filaments: milligrams per kilometer (mg/K)

For yarns: grams per kilometer (g/K)

For coarsest yarns and intermediate products: grams per meter (g/m), or kilograms per kilometer (kg/K).

A direct system has been chosen because it is simple to understand and use.

The advantages of having all yarn counts, in whatever fiber, expressed in the same system are numerous. Where fibers and yarns of different composition, designated by different yarn counts, are combined, the chances of mistakes increase. The practice of employing a direct system for counting slivers and rovings and an indirect system for yarns (as in the worsted and cotton branches) would be eliminated and production calculations simplified. Calculations of fancy yarns would be made much simpler.

With a direct system, the count of yarn is found by totaling the counts of the threads composing it (after allowance for contraction, etc.). Where cloths are made from a variety of yarns, cloth-weight calculations would be simplified. Also, the technical and research work done on any fiber would be readily understood by textile men in other fields.

The system is a practical one, since a two-figure number (between 10 and 100 g/K) covers normal count ranges in cotton, rayon, worsted, wool, and linen. Provision has been made for numbering the coarsest yarns by a thousandfold increase (kg/K, kilograms per kilometer). *(R-438)*

Can Twisted Sliver Be Gilled Successfully?

I have read with interest the article entitled "Applications on Pin Drafter Disclosed," by James R. Longstreet, in

Beauty in Black!

with Hydroxanil*

the Superior Developer for Acetate, Nylon, and Union Materials!

HYDROXANIL is now available in quantity. It is an all purpose developer for dress goods, lingerie, hosiery, outerwear, knitted and woven piece goods. From coast to coast dyers are using Hydroxanil to solve their developing problems.

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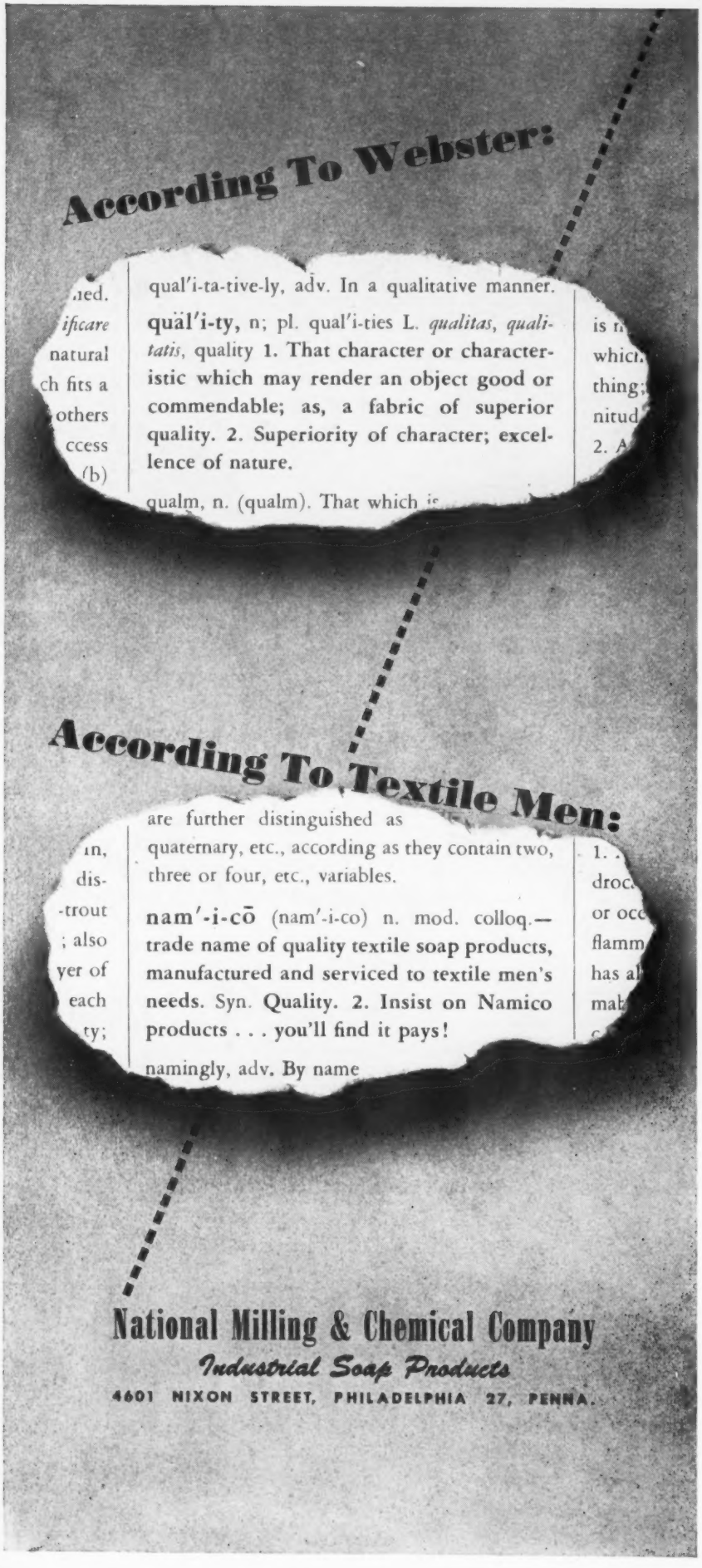

According To Webster:
qual'i-ta-tive-ly, adv. In a qualitative manner.
quäl'i-ty, n; pl. qual'i-ties L. qualitas, qualitatis, quality 1. That character or characteristic which may render an object good or commendable; as, a fabric of superior quality. 2. Superiority of character; excellence of nature.
qualm, n. (qualm). That which
According To Textile Men:
are further distinguished as quaternary, etc., according as they contain two, three or four, etc., variables.
nam'-i-cō (nam'-i-co) n. mod. colloq.—trade name of quality textile soap products, manufactured and serviced to textile men's needs. Syn. Quality. 2. Insist on Namico products . . . you'll find it pays!
namingly, adv. By name
National Milling & Chemical Company
Industrial Soap Products
4601 NIXON STREET, PHILADELPHIA 27, PENNA.

Round Table

(Continued)

the July issue of TEXTILE WORLD. The description of the Warner & Swasey pin drafter is very adequate and satisfying.

However, I have doubts as to the accuracy of the description of pin control in the English [Bradford] system of worsted drawing.

In the second paragraph, page 133, this statement is made: "Pin control has been abandoned beyond the spindle gill in favor of interfiber friction control plus compression, primarily because, with existing gill boxes, the reduction in the weight of the sliver, together with the relative amount of fiber below the actual controlled nip length between faller bars and nip roll, results in unevenness of finished product."

It may be that reduced weight of the sliver and the amount of fiber between faller bars and nip roll contribute to unevenness. It may also be that unevenness is part of the reason why the gill box is not used after twist has been inserted into the sliver.

But I have always understood that the primary reason for not gilling twisted sliver is that you cannot gill it at all.

If the sliver is twisted, the fibers do not lie at right angles to the faller bar. If you try to gill it, it will cause wear and tear, and perhaps bend the pins and break the fibers.

Twist in sliver to be gilled is so serious that even the slight amount of twist obtained when a top sliver is drawn from the center of a ball seriously interferes with satisfactory gilling. This slight twist frequently damages fallers.

If this difficulty did not exist, there would be no reason for using ball creels with can gill boxes. Ball creels are obviously cumbersome. It would be much simpler to place the balls on the floor and draw the slivers from them.

Sometimes a sliver in ball form tends to split and "dog leg" while it is being drawn from a creel. This trouble would not occur if the sliver could be drawn from the center of the ball. Yet, creels are used. All the care and trouble they create are undergone to avoid the slightest amount of twist in sliver to be gilled.

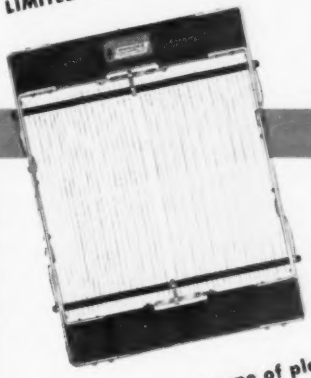
Why? So that the fibers will meet the faller bar at right angles.

There may be some error in the argument I've made on this point. If so, I'd appreciate someone pointing it out. In any case, I am sure the subject is well worth a discussion; and I wish space for it could be found in Round Table. *(R-439)*

TEXTILE WORLD welcomes discussion of this question.—Editor

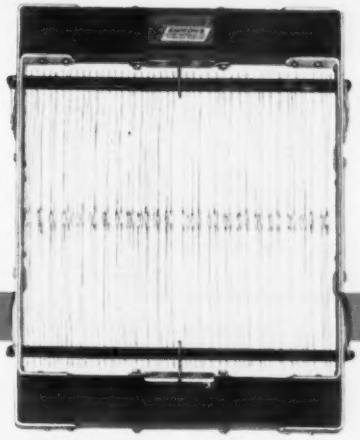
"HERE ARE 3 TYPES OF EMMONS HEDDLE FRAMES!"

EMMONS SINGLE BAR LIMITED SLIDE FRAME



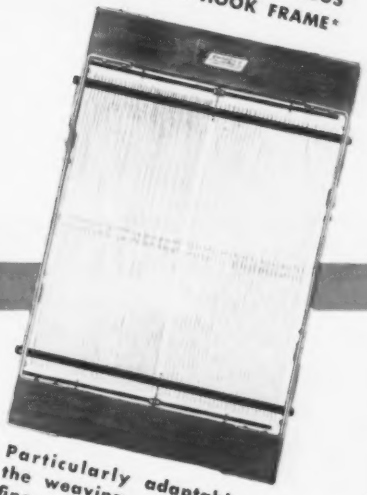
For almost any type of plain or Dobby goods weaving.

EMMONS DOUBLE BAR LIMITED SLIDE FRAME



Extremely suitable for weaves where a double bar harness is required such as Light Duck, Narrow Sheeting, etc.

EMMONS #E-11 CONTINUOUS SLIDE HOOK FRAME*



Particularly adaptable to the weaving of rayon and fine worsteds.

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ATLANTA	ARTHUR HARRIS P. O. Box 1982 'Phone—Main 2643
DALLAS	R. D. HUGHES SALES CO. 1812 Main Street 'Phone — C-6283; C-6284
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*Patent Applied For

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(Nickel, cadmium, stainless)

HEDDLE FRAMES

REEDS
(Pitchband & All-Metal; Also Available in Stainless Steel)

SELVAGE HARNESS

SLASHER AND STRIKING COMBS

EMMONS LOOM STRAPPING
(Manufactured by B. F. Goodrich Co.)

RUN-RITE PLASTIC SHEAVES AND TAPE TENSION IDLERS
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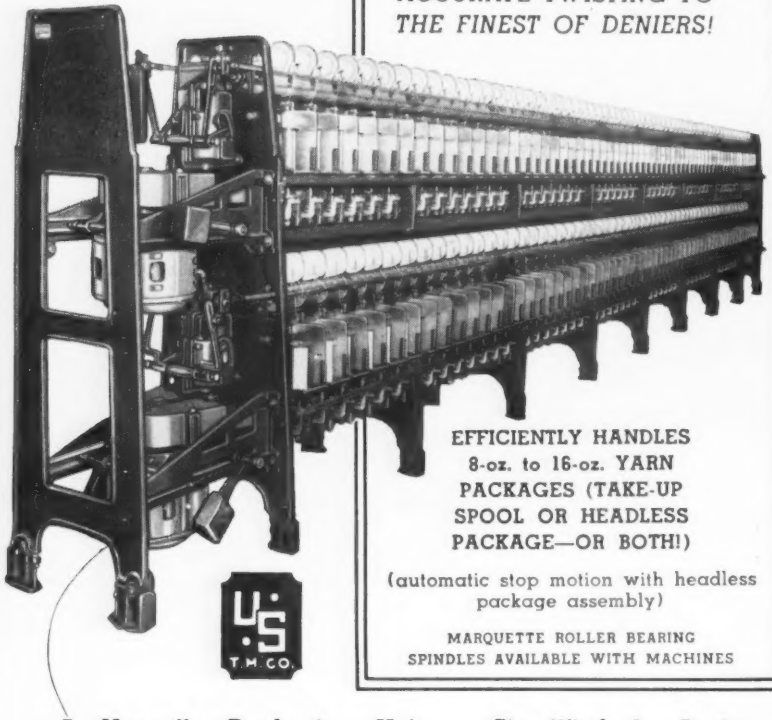
EMMONS WEAVE ROOM EQUIPMENT

U.S. ACME
MODERN THROWING EQUIPMENT
PRODUCING PROFITS
in throwing mills throughout the world!

JUMBO DOUBLE DECK TWISTER

ECONOMICAL, HIGH-SPEED, ACCURATE TWISTING TO THE FINEST OF DENIERS!



EFFICIENTLY HANDLES 8-oz. to 16-oz. YARN PACKAGES (TAKE-UP SPOOL OR HEADLESS PACKAGE—OR BOTH!)

(automatic stop motion with headless package assembly)

MARQUETTE ROLLER BEARING SPINDLES AVAILABLE WITH MACHINES

A Versatile Production Unit . . . Simplified In Design, Unique In Construction—The Finest In Mechanical Perfection!

From its unique traverse cam unit with a built-in ball type secondary motion (to prevent built-up ends of yarn on spools) to its newly improved twist unit (only one gear to change for each given twist), the U. S. ACME Jumbo Double Deck Twister is designed and engineered for trouble-free twisting . . . creating top production records throughout the world, delivering finished yarn of unsurpassed quality at rock bottom operating and maintenance costs.

WRITE FOR ILLUSTRATED BULLETIN

U.S. TEXTILE MACHINE CO.

600 Gilligan St.—Scranton 8, Pa., U.S.A.

Drop-Wires

(*Continued from page 141*)

and drop one by one, as his left hand separates the crossed warp yarn in the lease. This is the proper method to obtain the utmost when dropping is to be done by hand.

The drop-wire separator bars should be placed in position for as many banks as required. The two lease rods, of course, must be inserted and positioned directly behind the separator bars, so that the dropper can pick the cross from a standing position. The bars should be also within reach, even if the brackets require moving back to a point which makes this easily possible. Bars must be raised from their usual running position and placed so that the top edges are just free from holding the warp yarn. This will place the bars about $\frac{1}{8}$ in. below the warp sheet. If bars and lease rods are correctly placed and spaced, less body and hand fatigue will develop, allowing the dropper to work faster. Leg weariness will occasionally cause the dropper to shift and lean his elbows on the warp. A stool would be partly an answer to this problem; but, on most heavy warps, the low beam location hinders its use.

A sheet of yarn-packaging cardboard can be used to hold the supply of drops, and it should be placed within suitable reaching distance on the warp yarn. This holder could be 6x12 in.; and, as the supply becomes exhausted, the dropper, in replenishing, works off body and leg fatigue by temporarily stopping dropping and placing a new supply of drops on the holder.

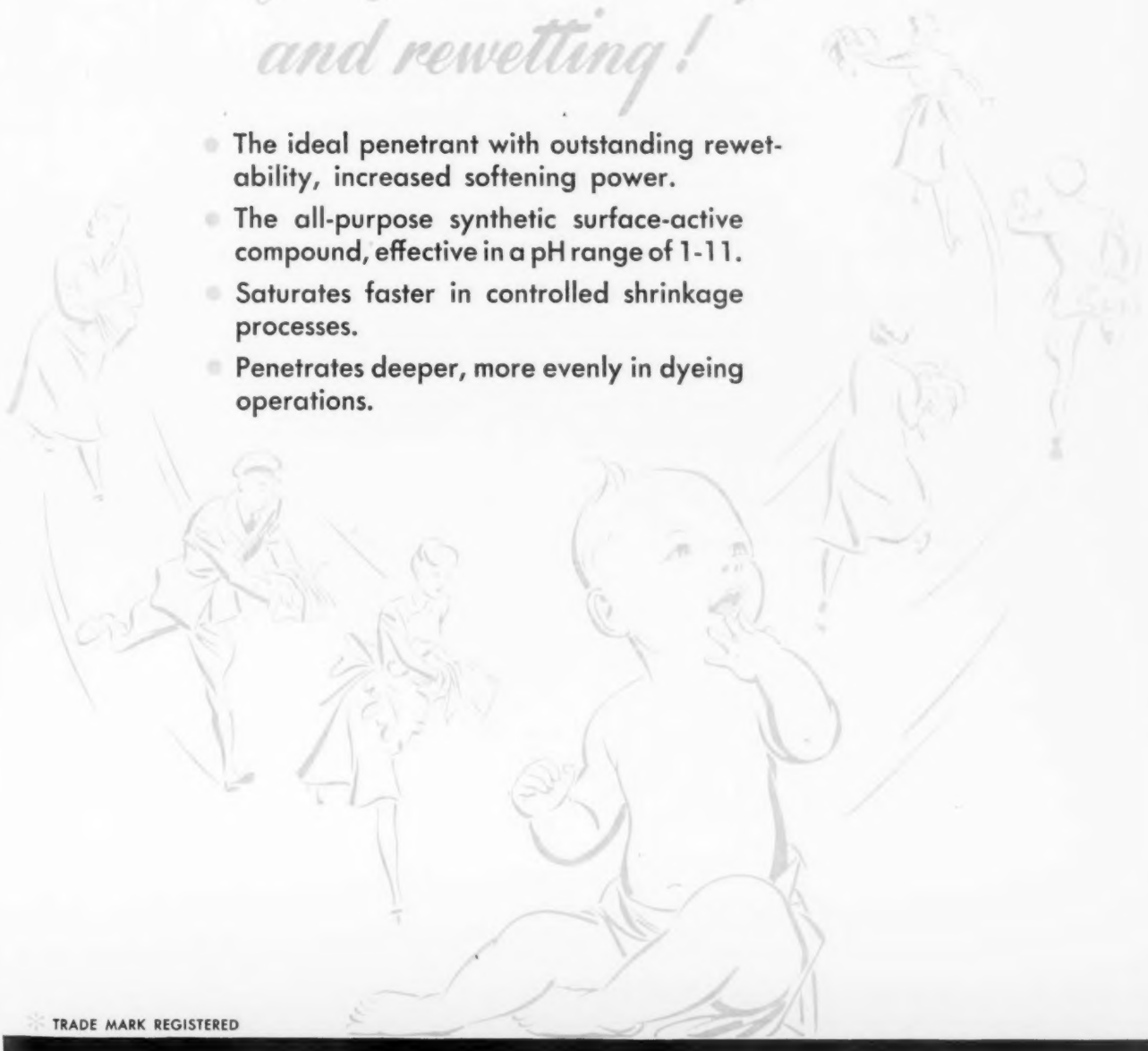
A right-hand dropper starts on the right-hand side and works across to the left. The left hand is used to pick out the individual warp ends from the cross. Ends must shift readily. Place the left side of the palm on the warp yarn, positioning the thumb over the one lift and the forefinger over the other lift. As the ends come out, pressure on the crossed ends by the finger and thumb alternating keeps unwanted ends back while allowing only the one desired end to come free. This system can be speeded to several thousand drops an hour on some yarns and weaves, but on rougher yarns it may be limited to around 500 drops an hour.

PRECISE FINGER MOTION. The right hand holds the wires, with their open ends down, in small bunches limited by the dropper's holding and handling capacity. The thumb is around the bunch to the left and uppermost, as shown in Fig. 1A. The little finger is used to hold the lower part of the

AHCOWET*RS

for faster wetting and rewetting!

- The ideal penetrant with outstanding rewetability, increased softening power.
- The all-purpose synthetic surface-active compound, effective in a pH range of 1-11.
- Saturates faster in controlled shrinkage processes.
- Penetrates deeper, more evenly in dyeing operations.



* TRADE MARK REGISTERED

ARNOLD, HOFFMAN & CO., INCORPORATED

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ESTABLISHED 1815 — PLANTS AT DIGHTON, MASS., CHARLOTTE, N. C. AND CINCINNATI, OHIO

PROVIDENCE, RHODE ISLAND

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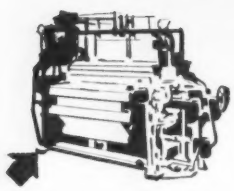
MODERN BASE FOR MACHINES!

MB's ISOMODE* PAD helps you

CUT OPERATING COSTS!



1. *Works under present feet of machines*
2. *Eliminates special foundations and anchoring*
3. *Cuts down vibration and noise*
4. *Reduces maintenance*

It's the vibration of machines (or their impact) that creates so much extra expense in a plant. So often it's the cause of damaged plaster and floors. You'll find it responsible for rapid loosening of machines, interference with precision work, nerve-wracking noise level even in offices far removed from the factory floor. And all so needless now! For you can take the wear and tear out of vibration easily, quickly, cheaply — with Isomode Pads!

See that cross-cleated construction? It was engineered that way for the special resiliency required to cushion impact and vibration *effectively*. Though only 5/16" thick, Isomode Pads are all you need to anchor your lightest machines, your heaviest ones. No expensive built-up bases, no bolting to floors, no costly job when it comes to relocating equipment! A heavier machine simply gets supported by a larger area of pads.

Molded of Neoprene, Isomode Pads resist oil, water. Place them under your machines and forget them for years. They are supplied in sheets 18 x 18 inches square to be cut to necessary size by your maintenance crew. Each pad is enough for a total of 9½ tons of machines!

IN THOUSANDS OF INSTALLATIONS, Isomode Pads are now cutting plant costs and improving working conditions for satisfied users. Why not learn what they can do for *you?*

SEND FOR THIS DETAILED BULLETIN

It tells you about more benefits, and shows how easy it is to install Isomode Pads.

*Trade Mark Reg. U. S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1084 State Street, New Haven 11, Conn.

wires. This finger is opened when pressure is exerted at upper end of the bunch and closed to hold the wires when pressure is released at the upper end. The forefinger, in conjunction with thumb action, is used to separate the individual drops ready for placing.

There is an unusual finger motion used in bringing the drops from the bunch and dropping them one by one over the warp ends. The thumb pushes with a sliding action as the forefinger moves back and forth serving both as a pushing and retarding lever. At the same time, as drops are separated from the bunch, the third finger slides downward on the wire and is brought toward the palm in spreading the wire prong open as it is being dropped over the separator bar. See Fig. 1B. It is important when instructing learners to start them right, as dropping speed then develops, and the work becomes easier.

Droppers prone to perspire freely should be supplied with a sweat-retarding powder to keep the left hand and fingers smooth. Some mills use French chalk. Salt tablets dissolved in drinking water offer some relief to the worker, but too much water may cause trouble. New workers, inexperienced in shifting the body to obtain the utmost in physical relaxation and also self-conscious about their awkward position behind the loom, are likely to be overcome by body exhaustion and so lose time, make wrong drops, break warp ends, and chafe the yarn.

Sweat-retarding powder can also be used to a slight extent in the right hand. French chalk or a light dusting of talcum followed by wiping off will also serve to keep the fingers moving and the drops working smoothly. Too much powder on the right hand allows the drop-wires to fall out as the finger spreads the bottom wire prong when sorting it from the bunch, but no powder at all may leave the wires sticking together and prevent fast and accurate dropping.

BANKS EQUAL SHAFTS. It is concluded by most experienced mill men that there will be less false loom stops if the same number of banks is used as there are entered shafts in the harness set. Thus a seven-shaft weave is dropped with a seven-bank unit; a two-shaft with a two-bank unit, etc. There is, however, a certain indispensable relation between the number of banks and the drops per bank. If drops are too crowded, they may fail to drop quickly and thus create a smash hazard by holding the broken warp end in the chopping harness as the loom fails to stop. A six-shaft harness entry may consequently require a eight-bank drop, etc.

When using the same number of

werner's
STRAIGHT TENTER FRAMES
for high speed framing

Werner's Tenter Frames can be built to handle any width fabric from 18" to 100" wide—at speeds up to 200 yards per minute!

You get many advantages with Werner's Straight Tenter Frames, which are made of heavy rugged cast iron. The basic length is 30', consisting of an inlet section, one straight away section, and a take-up section. Addition of any number of ten foot straight away sections can be made to the frame.

The "heart" of the frame for long trouble-free operation is the oversize bevel gear drive of Werner's own special design and construction, all ball- and roller-bearing-equipped. With this drive our frames have operated at high speeds *for over 20 years without repairs!*

Illustrated is a Werner Straight Tenter Frame driven by attached A. C. Motor.

The savings offered you by Werner Straight Tenter Frames and all Werner Equipment make Werner a "must" in the entire textile industry, where today it is widely being used.

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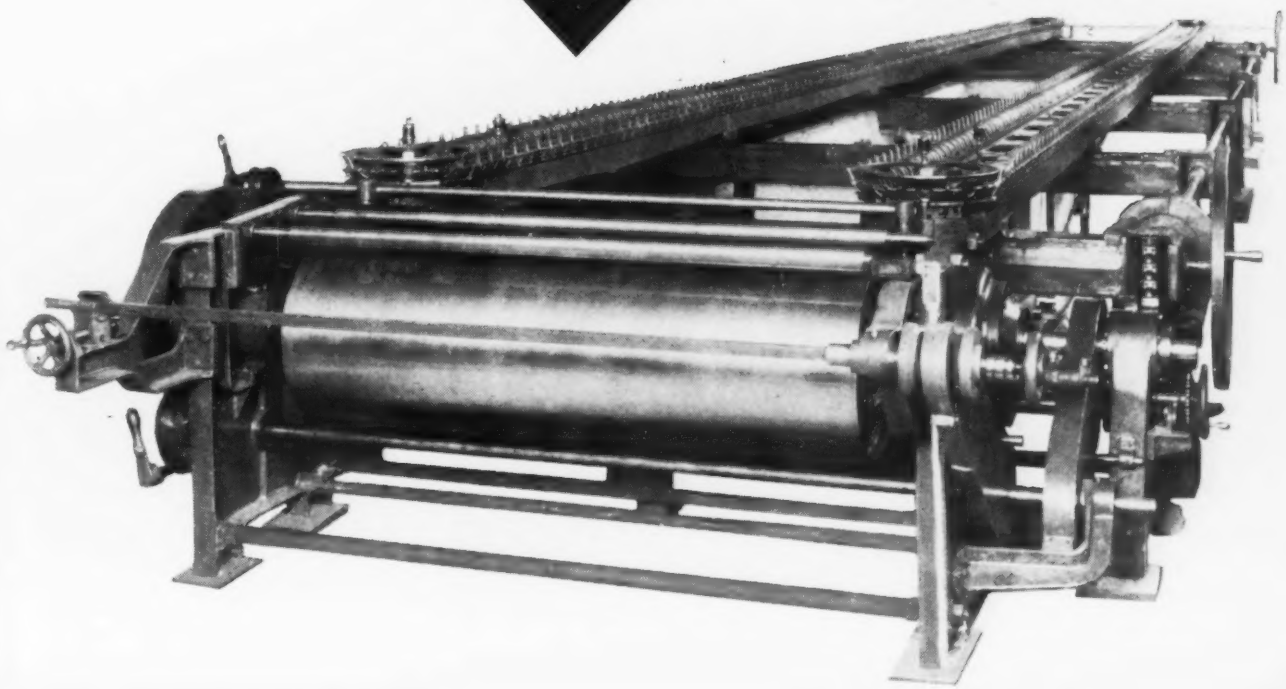
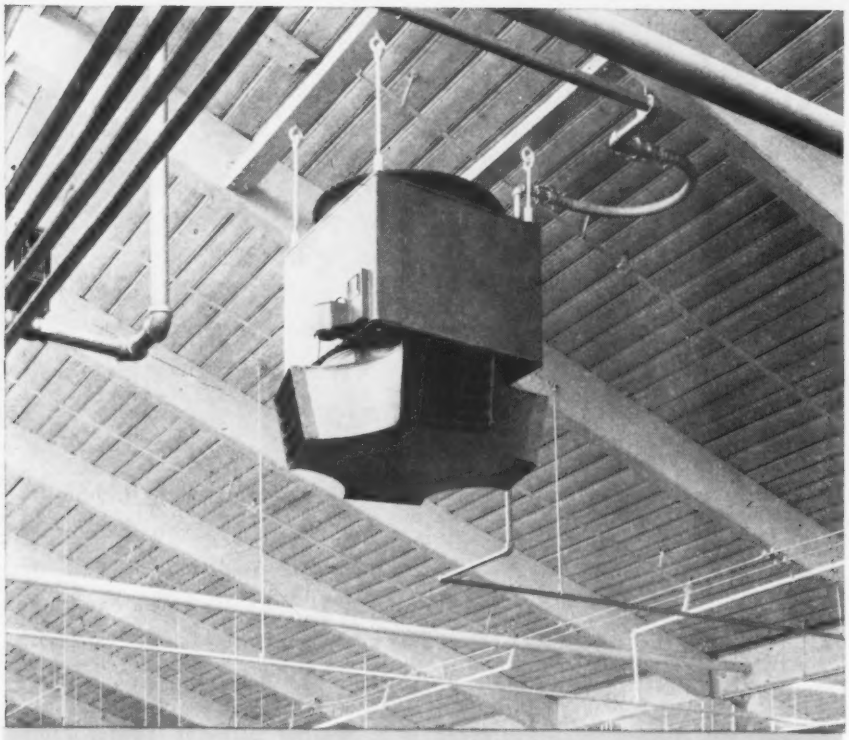
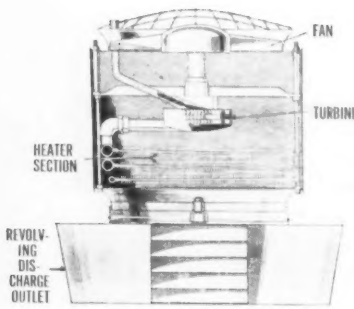




Wing Turbine Driven Heater uses exhaust from fan turbine for heating



Where live steam of any pressure is available, it is possible to heat a plant advantageously by installing Wing Turbine Revolving Unit Heaters. The fan is driven by a Wing Turbine and the turbine exhaust is piped into the heater section. Electric motor and electric power are eliminated as the source of power (steam) is also the source of heat. The revolving discharge outlet distributes the heat to the working level, flowing around obstructions and to remote corners. Workers are pleased with the sensation of fresh, live, invigorating warmth. Write for descriptive bulletin or specific details.

L. J. Wing Mfg. Co. 138 W. 14th Street, New York 11, N.Y.
Factories: Newark, N. J. and Montreal, Canada

Wing

Revolving UNIT HEATERS

banks as harness shafts, droppers are requested to keep in mind that each end from certain individual shafts must end on a specified bar. Thus if No. 1 shaft is started out on No. 1 bank, the last shaft must end up on the last bank. Errors are avoided by always mentally checking a certain shaft with a certain bank bar. For example, No. 5 shaft is always dropped on No. 5 bank bar. If the foregoing is followed through, all drop-wires on individual banks will have the same rhythm in motion as the loom has in operation, and false stops will be reduced.

After dropping the warp, the dropper brushes all fallen drops from the floor and boxes them for return to the twisting-in department. Later, the drops are sorted and re-arranged with all head ends in the same direction; then, the grouped drops are placed with the usable supply.

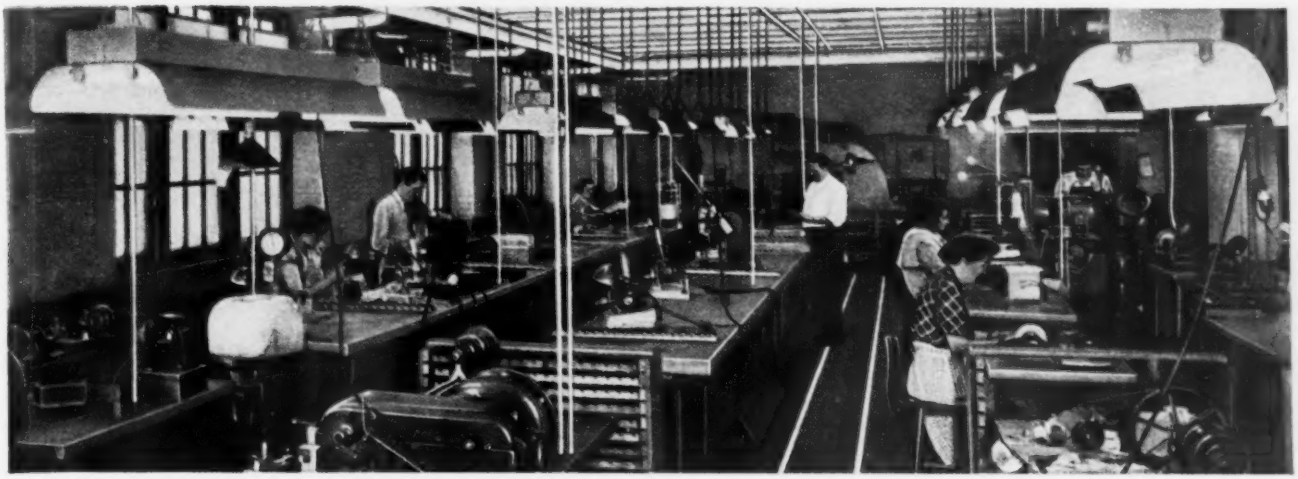
STARTING UP. In some weave sheds, the droppers also place the electrode bars, if the motion is electrical, and further aid the starting up of the loom. Other plants have the floor-hands start the loom in operation. Still other plants require the fixers to clean up after the droppers and complete the task. The latter plan is not so practical where large sections are the rule, since a waiting period of several hours may often be necessary before the fixer can complete his usual run of break-downs and give attention to the new remount.

After dropping and cleaning, the electrode bars must be inserted through the drop-wires before the separator bars are disturbed. The electrode bars should have narrowed, smooth ends, so they can be slipped through the drops easily, or a smoothly pointed sheath may be used to cap one end.

Handle the bars by inserting the first bar facing the warp, following forward in consecutive order until the last bar has been placed through its bank of wires nearest to the harness. Care must be taken that the natural position of the drop-wires is not disturbed. If disturbed, drops become entangled, and broken ends may be the result. Entangled wires also cause false loom stops, chafed yarn, and broken ends.

After all the electrode bars have been placed, the separator bars must be removed from their temporary position by releasing and drawing out underneath the warp. They are then replaced in their correct position below the warp yarn and between the electrode bars, where they serve to separate the bottom portion of the drop-wires and, at the same time, hold

C. E. Phillimore, Vice-President of Bell & Howell Co., reports on the result of Color Conditioning their Chicago, Ill. plant: "From an aesthetic as well as productive viewpoint . . . it has proved of value. Worker morale and efficiency . . . have materially increased. Machine operating parts painted in contrasting colors have been a factor in bettering safety records, too."



DU PONT COLOR CONDITIONING

MEANS GREATER OUTPUT...MORE PROFITS

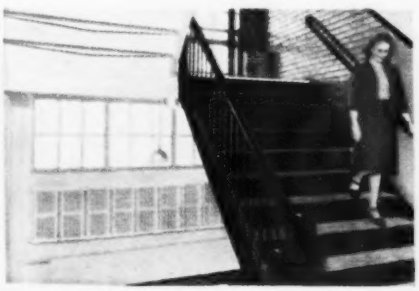
Du Pont Color Conditioning adds impetus to production by improving your employees' output. The correct use of color throughout your plant contributes to workers' efficiency, safety, comfort, and morale. Rate and quality of production go up . . . maintenance costs are lowered . . . your profit picture looks dollars better.

The advantages of Color Conditioning are being proved today in hundreds of industrial installations. To find out how this scientific painting plan can benefit every area of *your* plant, mail coupon below.

VISIBILITY. Color Conditioning provides the correct degree of "brightness" within the worker's field of vision . . . lets workers see what they are doing . . . eliminates eyestrain . . . minimizes fatigue.

SAFETY. The Du Pont Safety Color Code points out accident hazards, identifies safety and fire protection equipment . . . keeps workers alert through the uniform use of color.

MORALE. Restful, harmonizing colors can do a lot toward making employees more content in their environment, help better employee-management relations.



DURABILITY. Color Conditioning finishes represent the highest quality in maintenance paints. Based on years of Du Pont research, rigidly pre-tested, they assure you the utmost in application economy and long-term durability . . . stretch out the interval between plant repainting.

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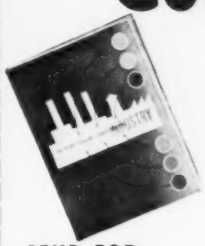
. . . THROUGH CHEMISTRY



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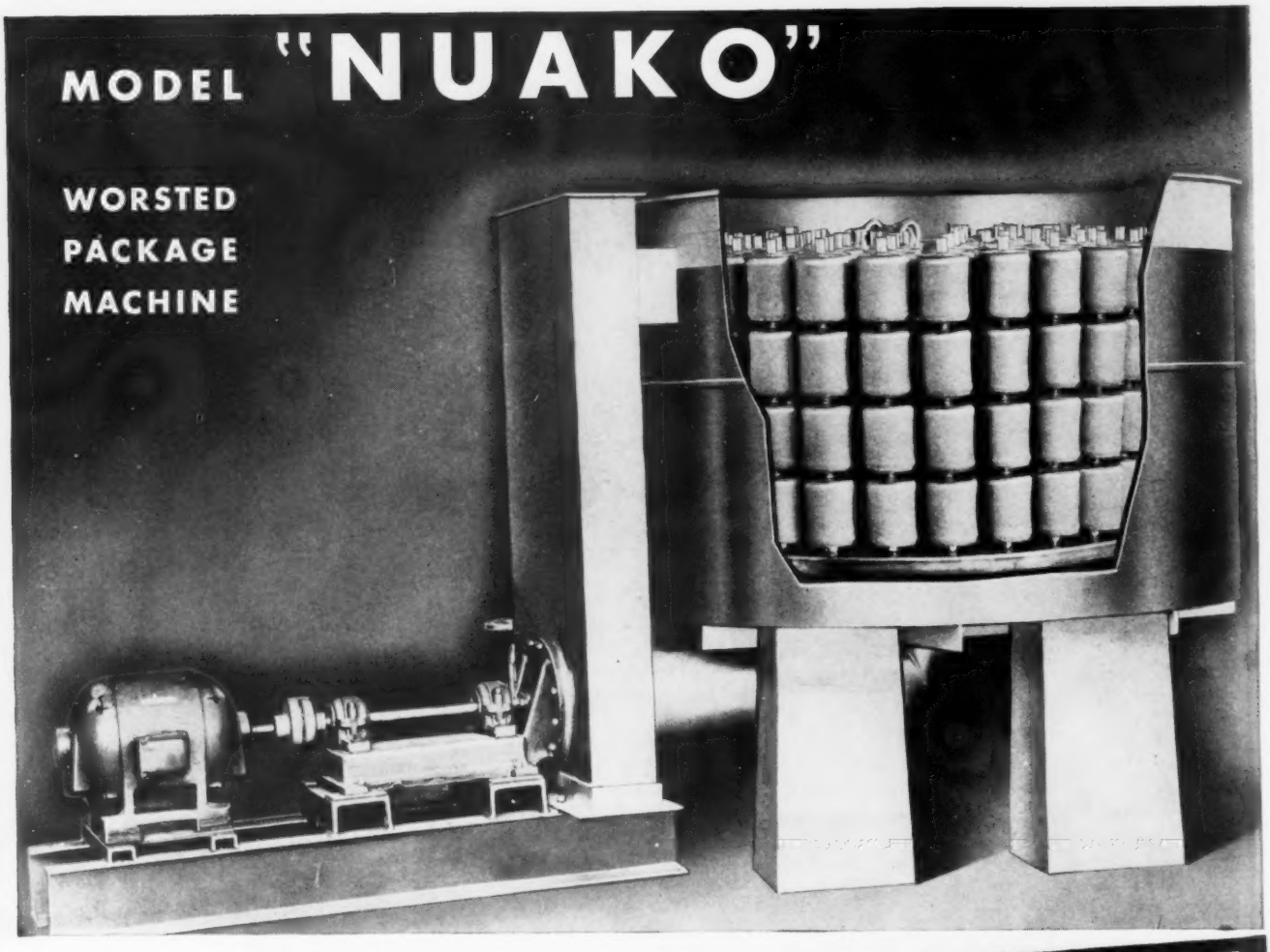
WORSTED
PACKAGE
MACHINE



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FOR DYED YARN "WITH THAT NATURAL FEEL"

NUAKO propeller system has full efficiency at boil. This assures positive level dyeing of yarn.

NUAKO fast circulation of liquor at low pressure prevents felting and channeling.

NUAKO has an exceedingly low liquor ratio for economical dyeing.

NUAKO removable material carrier permits maximum production at low labor cost.

NUAKO machines of 250 pound capacity may be coupled to one another to produce any desired poundage of a single shade in one batch.

NUAKO is of all stainless steel construction.

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up broken warp ends that may occasionally hang down.

Electrode-bar brackets are aligned into correct position. Holders are placed on the ends. If warp ends are still out, they must be spliced and pulled through. A number of false drops will also be encountered and must be cut free. By looking under from one end, loose drops hanging low can be located and corrected. If all is satisfactory and the loom is ready to run, put on the electrode holder that contains the circuit end and tighten firmly in position.

When the loom is started up, test each electrode bar individually to check that the circuit is in working order. Remove all extra bars from the loom area and return them to storage.

New remounts may have a number of loose warp ends coming up during several yards of weaving. This condition is difficult to correct, and the most feasible method is to block up such drop-wires as are over the loose ends with short strips of paper rather than to block the entire bank from contacting. After the weaving of a few yards has tightened the ends, the make-shift strips are removed.

Warp drop-wire stop motions, used primarily as a means for quality cloth, also boost production by keeping warp yarns separated and by breaking-up small stickers and size spots. Some experts contend that certain weaves do not need the drop-wire assembly and that it merely raises the cost of producing the cloth. Others hold to the belief that every weave should have drops. As an aid to quality, however, drops are a must item in the weaving of any fabric from single-, double-, or triple-ply yarns.

Laboratory and Pilot Plant

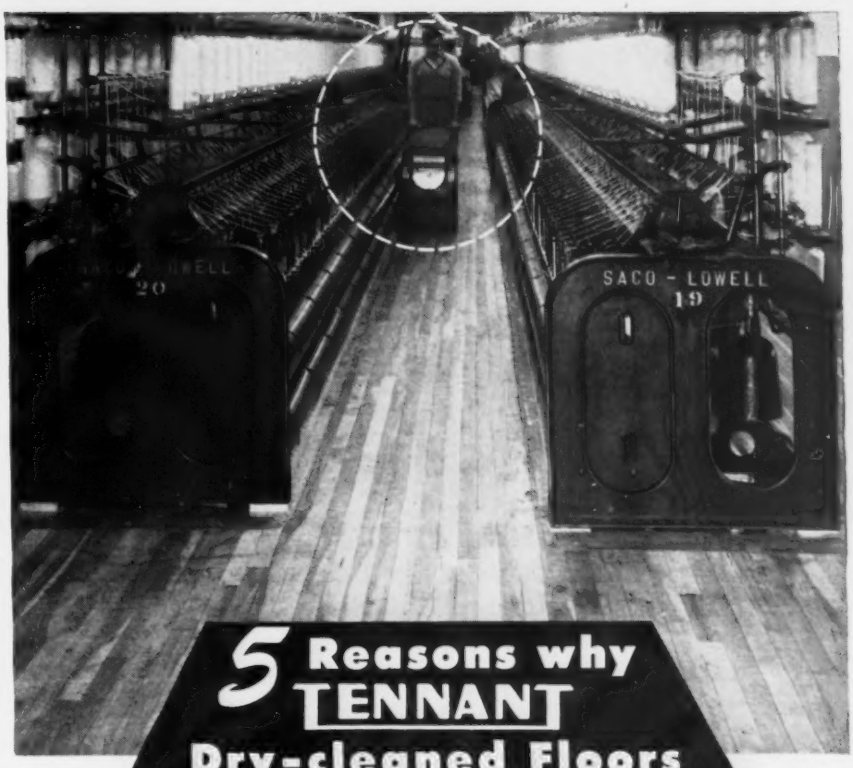
(*Continued from page 121*)

reflect the over-all modern treatment of the building provided by Burge & Stevens, Atlantic architects. Each has the highly functional quality associated with modern architecture.

LABORATORY. The main laboratory, finished in structural glazed tile with glass-block side areas, is spacious enough to contain more than 30 special testing devices and to accommodate a staff of eight technicians, including three graduate chemists.

Yarns, fabrics, and finishing materials can be subjected to an infinite variety of chemical and physical tests to determine strength, color fastness, water repellence, moisture content, laundering reaction, durability, porosity, etc.

For example, there is a miniature printing machine—a laboratory strike-



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Why have hundreds of mills like the one above—both large and small—tossed out floor scrubbing entirely? Why have they adopted the TENNANT System of "dry-cleaning"? And *why* does it give them better floors at less cost? *Here are reasons mill men give:*

1. REQUIRES LESS MANHOURS. This is because you clean floors *faster* . . . in 1 fast operation with a TENNANT machine; picks up soilage automatically!

2. FLOORS STAY CLEAN LONGER. The TENNANT process provides a bright, smooth, *sealed* floor surface that doesn't easily catch dirt. Can be swept clean in a twinkling with a dry cotton mop.

3. PROLONGS LIFE OF FLOORS. Adds years to the "life expectancy" of floors, even in heavy traffic areas. Surface is specially hardened to make it tough and durable.

4. HELPS PREVENT ACCIDENTS. Eliminates scrubbing and costly hazards of wet, slippery floors. Provides dry, smooth surface—the kind recommended by safety engineers. Boosts morale.

5. PROTECTS FABRICS FROM SOILAGE. Gets rid of cloth-snagging splinters and makes it easy to keep floor spotlessly clean . . . ideal floor for quality textile production.

SCRUBBED floor (magnified 22 times) shows rough, fuzzy, dirt-catching surface.

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CHOOSE CLARK
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A NEW TRAP
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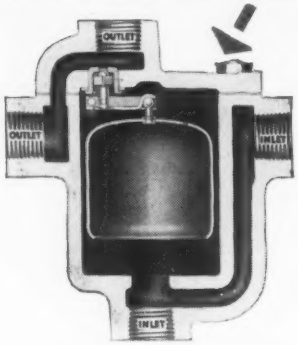

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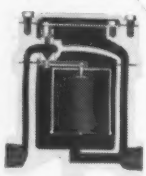

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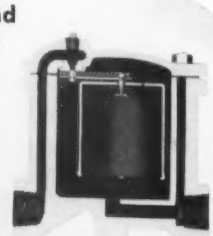

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Series "70"
Inverted Bucket
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TRAPS — FLOAT, INVERTED BUCKET, OPEN BUCKET AND VACUUM • REDUCING VALVES • STRAINERS

off machine which was made in the mill's machine shop—to provide a preview of how fabric will react under full-scale processing.

A laboratory padder is used for treating cloth with dye or resin for laboratory tests. The latest type of rain tester determines the ability of a material to repel water. Another device measures the amount of moisture a fabric contains in order to determine how much resin to apply in processing.

Samples undergo severe washing tests in a small-size laundry washwheel to determine shrinkage and color fastness. In another color-fastness test, made with a Launder-Ometer, material is subjected to the official standard tests of the American Association of Textile Chemists & Colorists.

A color Fade-Ometer is used to find out how a certain dye will stand up under average use. Other machines simulate daylight and artificial light. Patterns are put under the lights to demonstrate how the fabric will appear when completed.

Another device tests the qualities of flame-proofed materials.

A miniature slasher, another product of the mill machine shop, makes it possible to pre-determine the breakage strength and fiber lay of a yarn after it has been sized.

Separate from the main laboratory is a conditioning room, where materials to be tested for twist, elongation, breakage strength, and porosity are kept for 24 to 48 hr. in order to assure uniform physical conditions. A special air-conditioning system operated by Minneapolis-Honeywell Regulator Co. automatic controls maintains a constant temperature of 70° and relative humidity of 65%.

A fully equipped microscope room enables the laboratory technicians to analyze cloth by inspecting fibers which are magnified to the point that cells can be studied readily. This makes it possible to identify fibers and also to determine how they react to certain resins and dyes.

Fiber samples often are photographed for future reference. Members of the staff operate the camera and print the photographs in an adjoining dark room. Indicative of the careful attention given to planning the building is the fact that the dark room is entered through a light baffle, eliminating the need for a door which would be awkward to open or close when a photographer has his hands full of equipment.

PILOT PLANT. The pilot plant, a separate building which is adjacent to the laboratory, makes tests of fabrics, fibers, and yarns and of weaving, finishing, and fabricating processes. It

SPOILAGE CUT 50%— PRODUCTION UP 10% *DUE TO IONOTRONS!*

An example of how textile static problems are being solved with the Ionotron Static Eliminator®

Arrow shows location of Ionotron Static Eliminator on Peralta of wool card at Broadalbin Knitting Company. The Ionotron has entirely eliminated wool web static troubles.

At the Broadalbin Knitting Company, Broadalbin, N. Y., static electricity used to cause frequent breakage of wool web — with resultant spoilage, machine stoppages, and excess operating time. In February, 1947, Broadalbin installed Ionotron Static Eliminators on two wool cards where the web is fed from breaker to finisher.

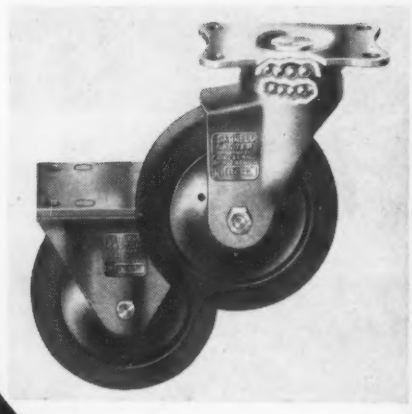
R. H. Cleveland, Superintendent, reports these results: approximately *50% less spoilage; 10% more production; 10% reduction in operating time; better quality work.* Static-caused stoppages of the machines have been eliminated entirely. Needless to say, Broadalbin is planning to install Ionotrons on other machines.

How it works — The Ionotron contains a self-active source of continuous alpha radiation. This ionizes the air in the static trouble zone. The ionized air conducts the static harmlessly to ground. The reduction of static eliminates bunching, lapping, and other static-caused difficulties with textile fibres and fabrics. Production and product quality go up. Working conditions are more comfortable, because high humidity is no longer required to combat static. Action of the Ionotron is continuous and permanent. There are no moving parts, no power requirement, no operating cost!

New bulletin tells all — Various applications of Ionotrons to textile machinery are illustrated and described in a new booklet entitled "Industrial Applications of the Ionotron Static Eliminator." You're welcome to a copy. Please address *Dept. R-7, United States Radium Corporation, 535 Pearl St., New York 7, N. Y.* Write today!

USRADIUM

IONOTRON *Static* **ELIMINATOR**



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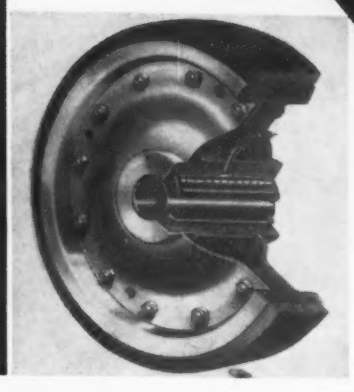

is the practical proving ground for the new developments which have been previously evaluated in other divisions of the Riegel laboratories.

In many cases, suggestions come from employees in the Riegel mills, sales and merchandising personnel, or other sources. Each receives thorough consideration. Through careful scheduling of the pilot-plant operation, machine time is made available for practical tests of the ideas. After the pilot plant develops constructions or styles, it submits them to production, personnel, sales departments, and merchandisers, who help to select the most suitable. Following final approval of styles, the construction or finish is ready for production in the Riegel mills in Ware Shoals and at Trion, Ga.

Every step of processing from opening the raw fiber to weaving the cloth is carried out in the pilot plant. Yarn is processed just as it is in the mill, with records being kept carefully to denote proper handling. For example, slasher operations are controlled by instruments exactly as they are in the main plant. Brown Electronik instruments provide precise control of size level, temperature of size kettles, and the temperature of drying cylinders.

The building, which is 60x105 ft., is of brick construction and formerly was used as a cotton-oil mill. It was converted after the war in order to augment the work of the laboratory and contains three main rooms.

Equipment consists of a picker, card, slasher, roving frames, spinning frames, twisting frames, and four looms, including two of the latest type for weaving synthetics. All equipment is of standard size except the roving, spinning, and twisting frames (which are short sections.)

In the weave room, closed off entirely from other sections, temperature is maintained at 80° by the Carrier air-conditioning system which is equipped with Minneapolis-Honeywell controls.

200 SAMPLES. The plant has turned out about 200 samples during its period of operation, according to Jack D. Towery, engineer in charge, enabling the company to reach conclusions about new products and new processes without interference with general operation and production schedules.

Research and development are continuing tasks, Mr. Warner believes. "Stop-and-go" research leads to few worthwhile goals, in his opinion. Keeping management informed about the progress of work in the stages of development and of work in the process of being tested is the key to coopera-

Worn Out?

not with NI-ROD in the shop!

Badly worn cast-iron cam. The first beads of Ni-Rod have been laid.

Worn surfaces have been built up with Ni-Rod.

Cam, after machining. Ni-Rod deposit now forms the wearing surfaces.

The problem: When this large cast iron cam wore out, it laid up a power shear in the sheet metal plant of McGruer, Fortier, Meyers, Ltd., Montreal, Canada.

Their maintenance men found that the minimum replacement time for the cam would be three weeks. To get the shear back in service sooner, they decided to try repairing.

The solution: The worn camming surfaces were built up with Ni-Rod* and subsequently machined to contour. The Ni-Rod deposit thus formed the new wearing surfaces.

Result? The power shear was back on the job within *3 days* instead of 3 weeks!

This is a *typical* Ni-Rod story — sound, strong, machinable welds in cast iron. Preheating is seldom required. Ni-Rod's easy-to-control arc facilitates cast iron repair work; cuts overhead on tough assignments. It works on both A.C. and D.C.

Check Ni-Rod's superiority in your own shop. Order a 5-lb. package from your nearest INCO distributor. Available in 3/32", 1/8", 5/32" and 3/16" sizes.

*Reg. U. S. Pat. Off.

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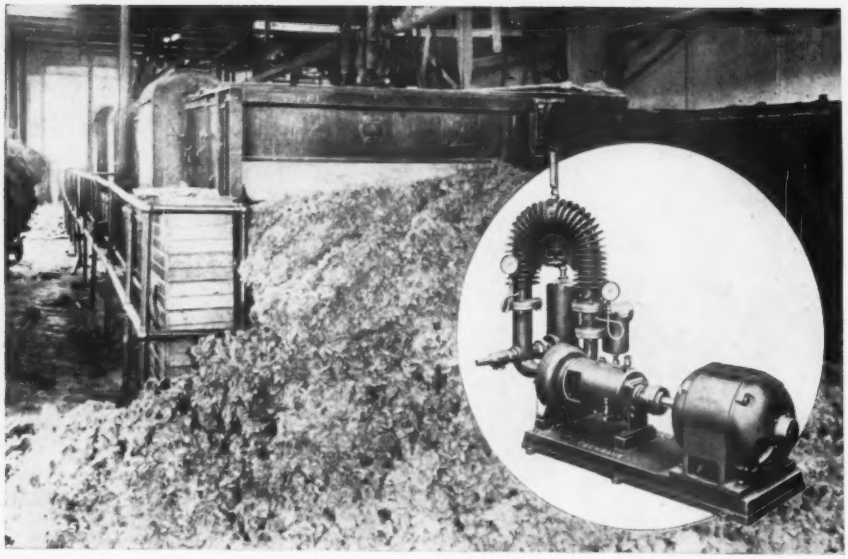

Hair dryer of Denston Felt & Hair Co., Inc., Philadelphia—Above Cochrane C-B System

Dries Felt 40% Faster with 25% Fuel Saving

Maintenance of High Temperature at Drying Coils by Cochrane C-B System Permits Dryers to Operate at Maximum Speed With No Re-Run

At Denston Felt and Hair Co., Philadelphia, before installing the Cochrane C-B System, broad variations in temperature of the drying coils restricted feeding hair to the dryers to 5 lineal ft. per minute, and coarse hair had to be fed at the No. 3 slow speed to insure drying. • After the Cochrane C-B System of high pressure, high temperature condensate return was installed, *all* grades of hair now run at the No. 1 high speed and the feed rate is increased to 7 lineal ft. per minute. • Drying is thorough, no re-runs are necessary, temperature is constant, and condensate is returned to boilers at 310F° instead of 210F°. In addition, 25% is being saved in fuel costs—*a carload less coal every month.*

The Cochrane C-B System is a system in which the condensate is returned to the boiler under high pressure and high temperature in a *closed circuit.* There's no flashing of steam, no insulating entrained air to cool equipment. Condensate is "boosted" back to the boiler at practically the same temperature as it left. This means higher temperatures at dryers, faster and more uniform heating, increased production and fuel savings.

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85 YEARS OF SERVICE

OF HIGH PRESSURE, HIGH TEMPERATURE CONDENSATE RETURN

tion from production, sales, merchandising, and executive personnel.

"A successful research and development department should be an integral part, not an appendage, of a company," Mr. Warner said. "Through this integrated concept, the vast area of scientific knowledge as yet untouched by textile technology can be explored with greater promise of success than on some other basis. The industry can hope to reach great, new horizons by consistent and systematic research and development."

Wool Pneumafil

(*Continued from page* 131)

to ends down, practically all of those loose and uncontrolled fibers which are set free between top roll and spindle.

On a spinning frame using the customary scavenger rolls, loose fibers normally drop on the guide boards and spill over the sides of the frame. On the way to the floor, they encounter air currents set up by the spinning tapes and are blown throughout the spinning-room air. The new system is credited at the Beattie plant with a decided improvement in the air breathed by the workers. The amount of cleaning needed on a spinning frame is reduced to a fraction of that formerly needed, according to Beattie officials.

ROVING WASTE. The system does not improve the quality of the roving to be spun into yarn; roving is made on the cards and depends mainly on the raw material put into the blend and how the card does its work. But it does save roving waste which can be used immediately without sorting and dusting, therefore the yarn yield is increased. Since the installation, Beattie Mfg. Co. reports reducing sorting and dusting of roving waste by 60%.

Although each end broken between the front roll and the spindle is automatically sucked into the tube, breaks above this section are not affected. An operator, however, can put roving waste through one of the suction pipes to send it to the chamber collecting the waste.

The installation eliminates roving waste being thrown on the floor from where it has to be swept, sorted, dusted, and reused. In a spinning department where different colored blends are running on the various spinning frames, mixing of roving waste can be prevented because each spinning frame has its own waste chamber.

At Beattie Mfg. Co., the following advantages are reported:

1. Spinning frames running without

DuPont colors for wool

With these products, Du Pont supplies a line of wool dyes to meet practically all requirements, offering the wool dyer a wide range of colors and shades in varying brilliance and fastness. Ask our Technical Staff about your specific dyeing problem. They're always ready to help in the selection of colors and dyeing method most suitable for your purpose. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

Pontacyl* Colors
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. . . THROUGH CHEMISTRY

When You Need a "Good Mixer"!

...USE NEUTRONYX 330

NON-IONIC SURFACE-ACTIVE AGENT

The stability of Neutronyx 330 against hardness, electrolytes and anionic or cationic materials makes it one of the most useful detergent and emulsifying agents available.

For Detergent, Emulsifying and Dispersing Action

It is widely used, of course, as an auxiliary detergent in hard water conditions, but it will be well worth your while to consider Neutronyx 330 for the following specific textile applications:

- Scouring assistant for rayon and acetate.
- Leveling agent or retarder in acid dyeing of wool.
- Dispersing and solubilizing agent for acetate colors.
- Dispersing agent for pigments in organic vehicles.
- Assistant in chlorination of wool in shrink-proofing.
- Assistant to insure more even exhaustion of anionic or cationic finishes.

Write for Onyx Technical Data Sheet 1-T. It covers the properties and applications of Neutronyx 330.

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onyx

CHEMICALS FOR TEXTILE FINISHING

Pneumafil have a front-roll speed of 175 rpm.; frames running with Pneumafil are running as high at 194 rpm.

2. The system is credited with eliminating wild or flying ends, also ends down caused by other ends. This fact of having less ends down is helping to decrease the number of piecings and improves yarn quality.

3. No cleaning of scavenger rolls is needed. In fact, scavenger rolls have been removed.

4. No shutting-down time is needed when many ends break, because each end is immediately sucked into the pipe, and the spinner can easily piece each end. The spinner will not be troubled with excessive roving wound around the scavenger roll, and he can catch up without other help.

According to the Beattie company, the workload on frames with Pneumafil has decreased about 10 to 12%. It is believed that the installation gives every spinner more time to watch the quality of the yarn and enables her to operate more easily the 200 or 240 spindles assigned to her.

The installation, according to the statement of the Beattie Mfg. Co., also improves the spirit of every spinner, because decreasing the workload and increasing the paycheck are important factors in human relations between management and employees.

Oils in Printing

(*Continued from page 145*)

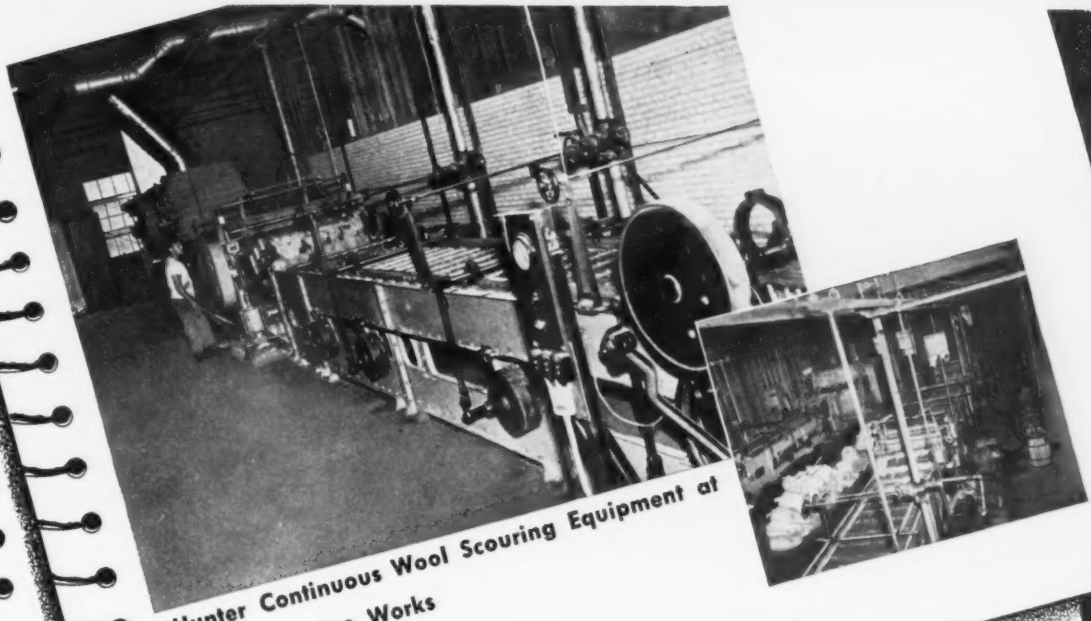
considerations, it may be gathered that the use of wetting agents of the type under discussion has considerable value.

The foregoing remarks have more general application to cellulosic fibers, such as cotton and rayon. Regenerated fibers such as viscose rayon in general, either spun or in filament form, also require thorough preparation for printing, the treatments, of course, are much modified to suit the nature of the fabrics.

A special application of pine oils may be noted here in the preparation of delustered crepe fabrics for printing. The type of fabric in question is that composed of 60 to 80% cellulose-acetate warp with a crepe filling of silk, cupra, or viscose yarn.

The usual type of creping and delustrant liquor is a boiling soap solution with a small amount of phenol. The soap liquor acts as a wetting and scouring agent for the removal of sizes, etc. and as an agent for the production of the crepe effect by swelling of the crepe yarns and consequent "snarling" of the latter to produce the pebble.

Phenol is used in conjunction with the soap to bring about delustering of



Hunter Continuous Wool Scouring Equipment at Blackstone Dye Works

Memo on Modernization

BLACKSTONE DYE WORKS Installs New HUNTER Wool Scouring Equipment

When Blackstone Dye Works, among others, installed new Wool Scouring, it specified the newly designed Hunter Scouring Bowls with Hunter opening and drying equipment.

The Model G Bowl is an important new contribution to better scouring. Due to its newly designed steeply angled bottoms, it reduces cleaning and down time to a fraction of what was formerly required. It is equipped with roller bearing pneumatic Squeeze Rolls, stainless rakes and carriers, stainless steel perforated bottoms, and if required, automatic dumping. It may be used either with or without grease recovery. In line with Hunter opening and drying units, there is no more modern method of scouring.

We cordially invite any plant interested in better scouring, to write, and we will be glad to have an engineer call — no obligation to you.

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Improve WORK QUALITY

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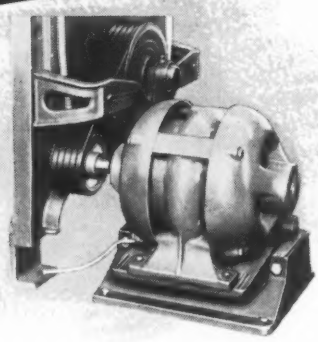
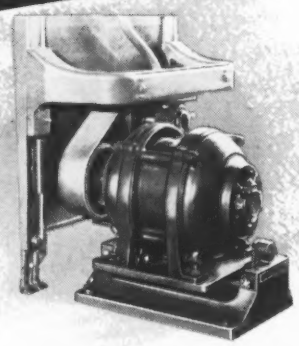
Complete V-Belt Drive



Rockwood Shelf-Type Motor Base

Complete Flat Belt Drive



Rockwood Floor-Type Motor Base

AUTOMATICALLY MAINTAINS CORRECT BELT-TENSION *all the time*

Despite load-change or belt-stretch Rockwood Pivoted Motor Bases maintain machine speeds constant every hour, every week, assuring the uniformity so vital to quality production. No slow-downs or time-outs for adjustment. Eliminate belt-slippage, usually double belt-life, save 5 to 10% in power, reduce motor bearing wear to a minimum. They're quickly and easily installed . . . and you can get complete service from Rockwood, including famous Rockwood Paper Pulleys with unequalled grip . . . Rockwood Sheaves and Rockwood V and Flat Belts. Write for full details today, or call your Rockwood distributor!

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Only ROCKWOOD Has all these essential motor base features!

- ✓ 1. Heavy, rigid cast-iron arms that will not bend and flex under belt-pull.
- ✓ 2. Two-piece, sliding arm construction for proper motor location, using less room, eliminating dangerous projections.
- ✓ 3. Ample clamping area and bolts to prevent motor fastening from vibrating loose.
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- ✓ 5. Oil-less type pivot bearings, assuring lifetime lubrication.
- ✓ 6. Heavy, cast-iron base giving minimum deflection when mounted on uneven surface.
- ✓ 7. Mounting area ample, yet small enough to fit an average motor foundation without extensive changes.
- ✓ 8. Adjustment for belt alignment, or take-up for permanent belt-stretch, safely and easily made while drive is operating.
- ✓ 9. Wide range of arm swing around pivot allows for considerable permanent belt-stretch before adjustment is required.
- ✓ 10. Base can be supplied for mounting at any angle from horizontal to vertical.
- ✓ 11. Always easy to adjust base to give just the right amount of pull.
- ✓ 12. Never necessary to remove motor from base to remove bearing housings for needed repairs.

ROCKWOOD PIVOTED MOTOR DRIVE

immediate delivery!

Rockwood's expanded manufacturing facilities now assure delivery immediately, or according to any delivery schedule you determine!

the fiber by internal swelling of the cellulose filament yarn, to bring about a change in the light reflecting powers of the lustrous fiber. One of the drawbacks to the use of phenol is that tendering of the fiber may occur by the excessive or over-prolonged treatment of the fabrics in the creping and delustering baths at the high temperatures required.

Similar effects may be produced by the use of pine oils in conjunction with soap, with much less danger of damage to the fabric and an equally good creping effect. An additional advantage is that the cloth is rendered much more absorbent during the application of print pastes. The finished handle of crepe fabrics produced by this method is also considered to be superior.

When the production of white discharge effects on dyed grounds is under consideration in fabrics such as the foregoing, it is essential that the white discharge print paste should penetrate the dyed material to the greatest possible extent. Penetration is, of course, assisted by the proper preparation of the fabric on the lines suggested.

It may be noted, in passing, that discharge effects on cellulose-acetate dyes are somewhat difficult to produce, because of the slow absorption powers of cellulose acetate as compared with viscose rayons or natural cellulosic fibers.

The dyes themselves are rather more difficult to discharge than direct or diazotized dyestuffs. For this reason, the use of very stable reducing agents such as zinc-formaldehyde hydrosulphites are necessary.

Good penetration is, therefore, necessary in the first instance; and the use of the stable reducing agents referred to make possible the extension of steaming times required to produce the discharge effect, so that as long a steaming period as may be required may be given to the goods to bring about the full white discharge.

Polyphosphates

(*Continued from page 133*)

soaps to form insoluble soaps on the goods or else precipitate as hydroxides from alkaline solutions. In addition, they may act as flocculating agents on pectins and proteins in scouring operations, causing them to adhere to the cloth. This action takes place with some dyes also, flocculating them out of solution and, as a result, producing uneven and mottled results.

Since hardness is a prevalent condition in water, varying only in degree from place to place, the ability of the polyphosphates to react with calcium and magnesium salts to form

BETTER SERVICE to CUSTOMERS

Comes with the Speedier Production of the

EDMOS High Speed TYPE EEM

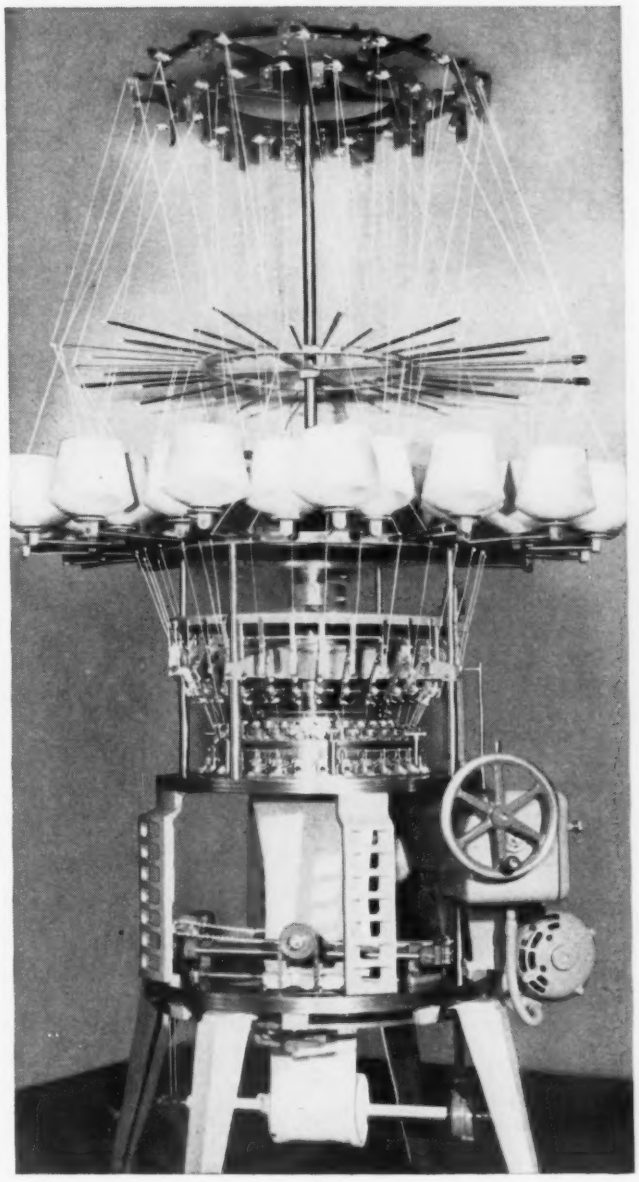
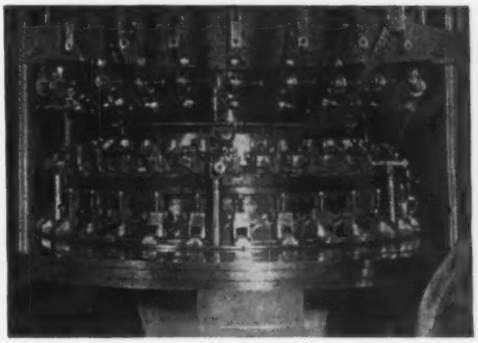


Illustration: Model Shown Is 20" - 30 Feeds

The high knitting requirements your customers demand call for the finest machines to do your work. Look at EDMOS Type EEM Super Multi Feed Plain Rib Body Machine—see it in action at the EDMOS plant—and you'll agree it has just what you need: UTILITY—designed for Swiss Rib, yet ideal for "T" shirt and polo shirt fabrics. HIGH PRODUCTIVITY: Type EEM has 1½ feeds per diameter inch; produces up to 4 times more work. ECONOMY: Simplicity of parts, easy to operate and maintain. Available for prompt delivery.



Complete Size Range:

12"—18 feeds	18"—27 feeds
13"—19 feeds	19"—28 feeds
14"—21 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
24"—36 feeds	

Famous EDMOS Features:

Simplified camming system both on cylinder and dial

Gear driven dial; Oversized dial shaft

Adjustable motor mount

Accessibility; Interchangeability

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How to Cut Down Production Headaches

WITH AN EFFICIENT

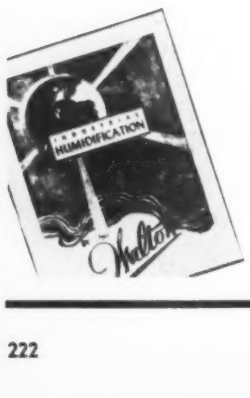
Walton

HUMIDIFICATION SYSTEM

Uniform humidity is a major factor in the problem of keeping materials and machines running smoothly at high speeds, eliminating costly stoppages traceable to static, breaks, and securing uniform quality of products.

When you consider Humidification for your plant remember these important **Walton Features** that will save you time, trouble and needless expense.

- Walton Humidifiers are factory-assembled units that can be installed over night.
- They require only connections for electric current and water supply.
- They are adaptable to any location, because several types of standard vapor directional distributing domes are available.
- Uniform automatically controlled operation is available for each group of four heads. Costs little but assures completely uniform conditions.
- Improved filter-type models remove lint externally, for easy maintenance without interference with normal operation.
- Draftless distribution of vapor so fine that wet spots do not exist.



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soluble phosphate complexes makes them useful in every finishing plant. While they are unusually efficient in this respect, they also tend to suppress in varying degrees, the formation of iron, chromium, and aluminum soaps.

These chemicals, as would be expected from their formulas, vary in pH, though even the most alkaline is only slightly more so at high concentrations than neutral soap. The hexametaphosphate is slightly on the acid side (see group of pH curves in accompanying chart).

Their relative neutrality makes it possible to use them in the scouring and dyeing of practically all natural and synthetic fibers, without any tendency to saponify or degrade such fibers. Thus, they have come into widespread use for preparing and dyeing silk, wool, viscose rayon, acetate rayon, as well as cotton.

They can be used alone, with the usual soda soaps, with synthetic detergents, in strongly alkaline or acid baths, and at both low and elevated temperatures. Since they are not affected by oxidizing agents, their presence in sodium-dichromate baths may tend to prevent the formation of chrome soaps.

They may assist also in the washing out of the chrome itself, since this chemical is rather difficult to remove. In naphthol dyeing, their presence in coupling and soaping baths where certain fast color salts are used aids in absorbency. Many of these salts include an aluminum salt, while the naphtholated goods usually have an excess of caustic soda present; thus, precipitation of aluminum hydroxide can occur. Since sodium carbonate or sodium hydroxide are also commonly employed in the soaping treatment for proper shade development, here again is an opportunity to precipitate aluminum hydroxide. Any aluminum hydroxide left in the goods dehydrates to aluminum oxide, which increases the harshness and decreases the water absorption of the fabric. This condition makes it difficult, at times, to obtain the desired finish.

REVERSION TENDENCY. Most forms of the complex phosphates tend to revert to orthophosphate on prolonged storage, especially under humid conditions, so it is desirable to keep these chemicals in cool, dry places. As would be expected, this reversion tendency is most pronounced in the more acid salts and less so with those of higher pH. The reversion of these compounds is accelerated by strong alkalis, mineral acids, and high temperatures and pressures such as are found in kier boiling, for example. If the calcium, magnesium polyphosphate salts are already formed, their reversion to the

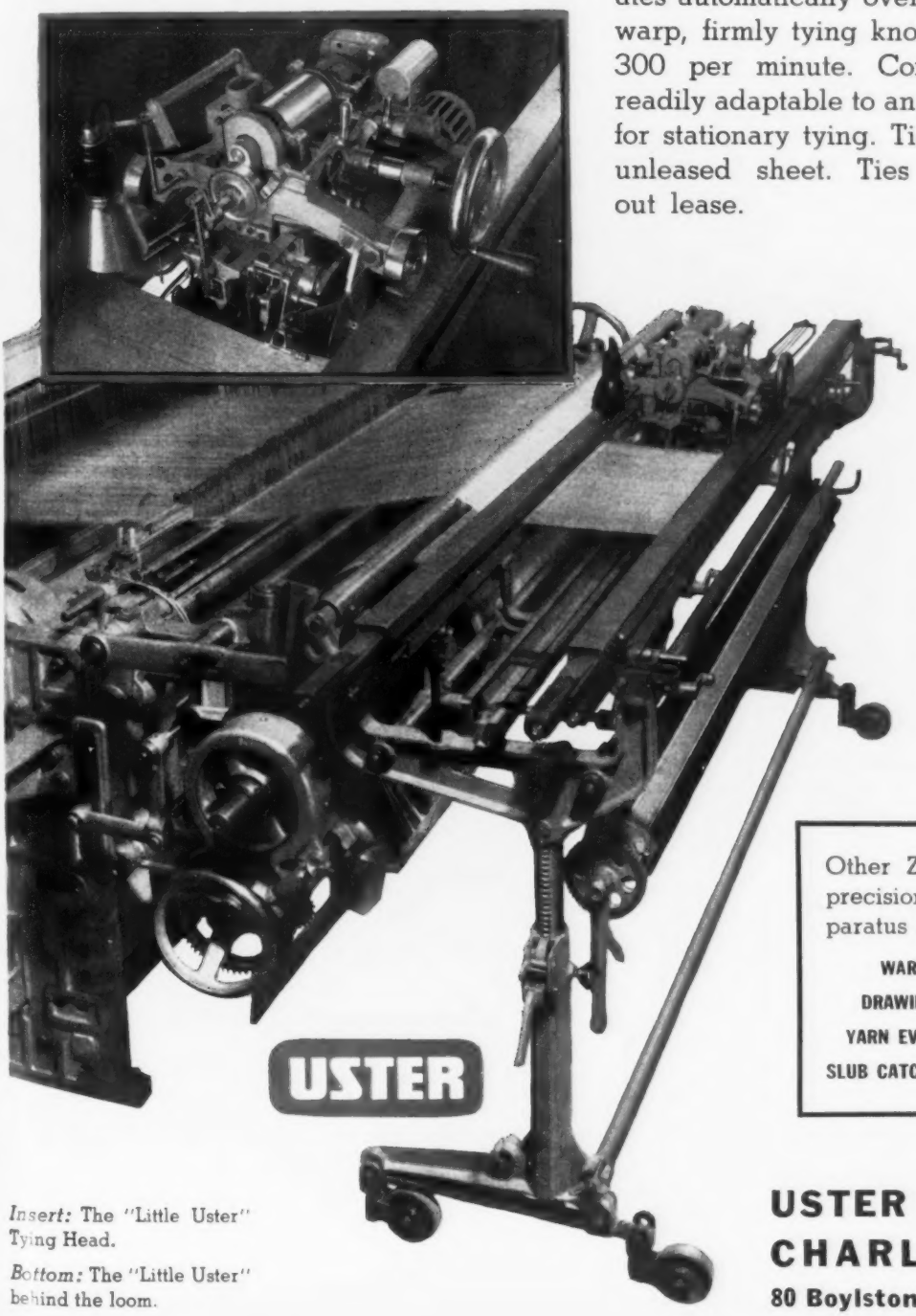
"Little Uster" Warp Tying Machine

Ties An Entire Warp in One "Bite"

Either on or away from Loom

The "Little Uster" enjoys a world-wide reputation as being the finest and most efficient machine available for warp tying. It is a Zellweger precision built product incorporating features only found in "the perfect" machine. Tying head and tying frame are independent units permitting the use of two or more frames with one head, thus a new warp can be prepared on a second or third loom while the head is tying on the first loom.

The "Little Uster" ties any material from the finest silks to the coarsest woolen yarns. Operates automatically over the entire width of the warp, firmly tying knots at the rate of 200 to 300 per minute. Completely portable and readily adaptable to any loom. Equally efficient for stationary tying. Ties a leased sheet to an unleased sheet. Ties warps with or without lease.



Insert: The "Little Uster" Tying Head.

Bottom: The "Little Uster" behind the loom.

Experienced technical personnel is available to analyze with you the money-saving possibilities and advantages of the "Little Uster."

Complete service facilities and parts stocks are maintained. Instruction by experts is provided.

Other Zellweger highly efficient precision-built machines and apparatus for:

WARP TYING **WARP LEASING**
DRAWING-IN **DROP WIRE-PINNING**
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normal phosphate form naturally causes them to precipitate.

This would seem to be a serious objection to their use in scouring and boiling-off operations, such as the kier-boiling of cottons, where high temperatures and pressures exist. However, the opposite is the case. Apparently, in the first stages of boiling, they react with and solubilize the heavy metallic ions, permitting the caustic soda to saponify the cotton fats and waxes. A homogeneous emulsion is formed; and as the polyphosphates revert, the normal, heavy-metal phosphate salts are precipitated in a finely dispersed form. Thus, these ions have little chance to form metallic soaps on the goods. In addition, the gradual formation of the phosphate precipitates insures that they are well dispersed in the boil-off liquor and consequently are not likely to agglomerate on local areas of the goods. Therefore, they can be washed off in the rinsing operations with little danger of quantities sufficient to cause resists or stains adhering to the cloth.

The complex phosphates seem to possess desirable properties for use in peroxide bleach baths, as buffering or stabilizing agents. This field has not been investigated too thoroughly, but current experiments, both in the laboratory and under plant conditions, indicate further exploration.

FOR WATER TREATMENT. The polyphosphates also find extensive use in water treatment and corrosion control. Many filter plants feed a complex phosphate into their filtered water in order to prevent so-called "red water" and minimize the corroding of their pipe lines. Since scale and rust coming from water lines can be very troublesome to any wet-processing textile plant, the use of one of the complex phosphates to control such a condition may pay dividends. Many city water systems feed a polyphosphate in order to prolong the life of their pipelines and to keep them from closing up with scale. Boiler water is often treated with one of the polyphosphates, preferably the more acid type.

Introduction of this compound into a boiler accomplishes two things: first, it tends to reduce the alkalinity of the boiler water as the complex phosphate reverts to the orthophosphate; and, second, the phosphate combines with the calcium ions present and causes them to precipitate rather than to form calcium silicate, carbonate, or sulphate, the scale-forming substances in a boiler.

The complex phosphates have other applications in various industries. However, these are based mostly on the properties mentioned: pH range;

Rayon Reports

Published by the American Viscose Corporation, New York, N.Y. November, 1948

Avisco Publications Provide Valuable Information to the Textile Industry

American Viscose Corporation maintains a technical information service to help keep industry abreast of the new developments in rayon. As part of this service Avisco publishes literature (a few typical examples are illustrated) that is available to interested individuals. In addition American Viscose technical men have written standard textbooks which can be secured through regular book channels.

Another phase of the Avisco information program involves the preparation of general material for distribution to schools and the public. Included are films, education kits and 32 reference leaflets. A complete catalogue of all Avisco publications will be sent on request.

How Rayon is Made—16 pages.

BULLETIN No. 700

Illustrates the steps in making viscose rayon, acetate rayon and rayon staple. Printed 6-47.

Short Story of Rayon—28 pages.

BULLETIN No. 2008B

Gives brief history of rayon, summarizes production methods, and details growth of American Viscose Corporation. Role of research in rayon development is stressed. Reprinted 1-48.

Record of Rayon Cord in Tires—20 pages.

BULLETIN No. 2009

This report gives technical data on the performance of rayon cord in tires, explains why greater safety and longer wear result from the use of rayon. Included is a sample of actual rayon tire cord. Printed 6-46.

Handling of Rayon Cakes—16 pages.

BULLETIN No. 2118

Advantages and techniques of proper handling. Well illustrated with photographs and easy-to-read diagrams for industrial use. Printed 6-46.

Preview of American Viscose Corporation—40 pages.

BULLETIN No. 2120A

An informal outline of general information about the Corporation for the use of college graduates. It includes detailed organization facts about our plant towns; is profusely illustrated with personnel and product pictures. Reprinted 9-48.

How Rayon Staple Serves the Woolen & Worsted Industries—12 pages.

BULLETIN No. 2124

A summary of the advantages of blending rayon staple with woolens and worsteds, plus descriptions of rayon staple's outstanding characteristics. Printed 1-47.

Textile Research Department—36 pages.

BULLETIN No. 2138

Describes department's commercial-scale facilities for cotton spinning, woolen spinning, worsted spinning, warping and weaving, knitting, and dyeing and finishing. Explains organization and functions of department. Profusely illustrated. Printed 6-47.

Avisco Crimped Staple—12 pages.

BULLETIN No. 2175

Explains the usefulness of Avisco Crimped Staple, the permanence of its crimp and its running efficiency. Includes samples of staple and swatches of fabrics made with Avisco Crimped Staple. Printed 11-47.

Tricot Fabric Design—124 pages.

Manual explaining fundamentals of designing tricot fabrics. Shows how to employ various stitch patterns with best effect. Written by Thomas Johnson, American Viscose Corporation. Published by McGraw-Hill Book Co. Price $2.50. Printed 10-46.

Spinning Rayon Staple on the Cotton System—148 pages.

Tells of the development of rayon staple, describes its properties, and details the methods and techniques developed to help manufacturers achieve the best results from its use on the cotton system. Photographs, charts, graphs and tables furnish a wealth of informative data. Offered only to technically qualified persons in industry. Printed 2-48.

• • •

Rayon Technology—276 pages.

This textbook was based on a seminar consisting of 6 advanced courses in rayon. These courses were given by the Textile Research Department of American Viscose to textile school deans and staff specialists in synthetic fibers. Includes technical information on spinning rayon staple on the cotton, woolen and worsted systems, rayon from yarn to fabric, as well as knitting, dyeing and finishing. Published by McGraw-Hill Book Co. Price $3.75. Printed 5-48.

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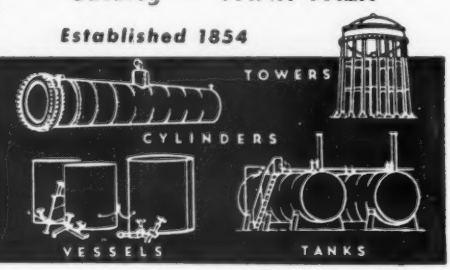

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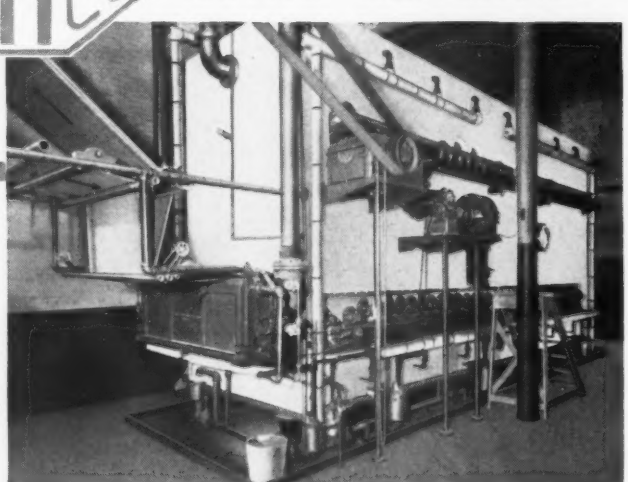

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ability to sequester the heavy metals in a soluble form; and tendency to revert to orthophosphates under certain time, temperature, and chemical conditions.

Capital Activity

(*Continued from page 103*)

clude commitments for plant and equipment as well as actual expenditures. The figures are therefore an index of the activity of the textile industry in capital investment in plant, rather than an absolute amount drawn from company coffers in a 12-month period. As in past years, figures from the mill-news columns of TEXTILE WORLD were available for the first ten issues of the year, to which one-fifth was added as an equivalent for the last two months to produce an annual estimate.

REFLECTION OF HIGH COSTS. In judging these estimates as indicating trends, it must be remembered that the figures are in dollars and that they reflect the higher cost of building and equipping as well as the physical volume involved. In the chart, a supplementary series of bars approximates the physical volume involved figured by deflating the dollar back to its 1939 purchasing value. This figuring is accomplished by using a series of index numbers which reflect both building and equipment costs over those years. These index numbers are part of an extensive series maintained by Marshall & Stevens, valuation engineers, Chicago, Ill.

The dollar value for capital commitments and expenditures by the textile industry in 1948 comes to $505,000,000, compared with $414,589,000 in 1947, $298,500,000 in 1946, $212,000,000 in 1945, and $87,670,000 in 1939. Converted to things bought if prices had been as they were in 1939, the series becomes $263,000,000 in 1948, $230,320,000 in 1947, $196,700,000 in 1946, $165,000,000 in 1945, and of course the unchanged figure of $87,670,000 in 1939. Although up 20% this year in dollars, the estimate is up only 14% in physical units.

The outlay included in these sums covers the industry's commitments for renovation, modernization, and expansion; and, of course, it involves cost of buildings, machinery, service and engineering equipment, etc. The figures do not include purchases of one company by another, nor do they include currently consumed supplies such as bobbins, picker sticks, etc.; nor replacements for wear and customary maintenance.

The survey includes fall data for all branches of the textile industry; but

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PARIS OPENINGS FEATURE BLUES, BROWNS*

Important Fabric Colors for Next Spring, Fall

Color trends, as revealed in the Paris fashion showings held in August, promise to influence color selections in fabric designs for many months to come. For this reason, they should be of interest to all who are concerned with color in textiles.

While no single color dominated all of the many showings, the largest single color grouping was the blue family, in a range that included navy, sapphire, royal, French blue, sky blue and aqua. Dior singled out blue as his most important color, showing it repeatedly in day, afternoon and evening wear, either as a monotone or in iridescent effects combined with black or brown.

Supplementing the preference shown for blue, a trend away from the muted, grayed shades currently popular was evident everywhere. Colors were brighter, clearer, truer, with primaries forming the basis for the new shades. Molyneaux and Balmain favored red to a marked degree, the latter selecting Basque Red for special prominence. Like the blues, reds appeared in a wide range, going from deep shades to intense flame reds and magenta. For the most part, yellows were clear, too. These were prominent in combination with black at Piquet.

The family of browns, ranging from dark shades to beige, is another color group scheduled for a comeback after a prolonged absence in favor of grays and greens. And again, while the browns did not by any means obliterate the grays and greens, their prominence in the Paris showings indicates that they will score heavily, along with blues, in Spring and Fall color selections.

*Reported direct from Paris by a Calco representative.

New Vat Printing Brown Has Excellent Light-Fastness

Calcosol† Copper Brown Printing Paste is a new vat printing brown designed for use on cotton and rayon. It has exceptionally good fastness to light even in light pastel shades, as well as excellent fastness to washing, chlorine, Plissé, perspiration, and hot pressing. These properties make it very desirable for the printing of draperies and shirts.

Calcosol Copper Brown Printing Paste is recommended especially for light to medium shades, as it retains its redness and richness of tone even in pastels. Other vat printing browns usually go greener or duller in light prints.

This dye is especially effective in producing dusty rose shades, and it acts as a shading element in grays. Very fast-to-light dusty rose shades are produced with this dye when applied straight, and also when shaded slightly with other fast-to-light printing vat dyes.

A range of very fast printing grays can be produced by using Calcosol Gray 2GP Paste with Calcosol Copper Brown Printing Paste, or by shading this combination slightly with Calcosol Blue CCP Double Paste or Calcosol Violet BN Extra Paste.

†Trade-mark.

More Dyes . . . Better Dyes

According to the U. S. Tariff Commission, production of dyes in this country totaled a new high record of 212,156,000 pounds, as compared to 186,000,000 pounds in 1946. The record is significant in view of the shortages of some coal-tar intermediates and inorganic chemicals which existed last year.

Of the 1947 total, 28.7% consisted of vat dyes, 20.5% direct dyes, 19.7% sulfur dyes and 11.0% acid dyes. The remainder consisted of mordant and chrome, azoic, basic, acetate, rayon, lake and spirit-soluble dyes.

Dye imports for the same year totaled 797,348 pounds (actual weight), valued at $2,025,800—a notable decline from the 962,000 pound total of 1946. Of the 1947 imports, most of them were supplied by Switzerland, with England, France, El Salvador, Denmark, Canada and Belgium supplying the remainder.

FOR THE TEXTILE BOOKSHELF

Calco Technical Bulletin No. 799—"A Study of Fluorescent Dyes." An up-to-date report on a study of fluorescent dyes; contains pertinent data about the properties and applications of fluorescent dyes.

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primary producers of synthetic fibers are treated differently, since their character and equipment makes them predominantly a part of the chemical industry. In view of this, only 20% of expenditures by synthetic-fiber producers are included in this compilation.

Although the major part of the money reported was for new buildings and new textile-producing machinery, substantial sums were allocated to air conditioning, humidification, materials handling, lighting, power plants, water treatment, employee welfare, and mill-village extension and improvement.

RAYON MILLS LEAD. Although it is sometimes difficult to classify a weaving mill as "cotton" or as "rayon" and confusion can result, it is perhaps significant that in 1948 for the first time rayon mills (excluding the fiber extruders) led the field in capital programs. This class of mill has almost doubled its rate over last year, while cotton-type mills are off a third. Adding cotton mills to rayon mills, a step that irons out any doubt on classification, results in $237,000,000, programmed in 1947 and $266,000,000 in 1948, a gain of about 16%. Knitting firms and finishing plants stand approximately par with their 1947 record. Wool manufacturers, however, made a surge forward in 1948 with a gain of nearly 75%. This was due principally to two things: (1) Several of the largest programs were in carpet mills (a group which have been experiencing exceptional business), and (2) the rise of worsted-on-cotton-system operations has resulted in a number of large new plants which are easily identifiable and rank in this study as wool mills.

The primary synthetic-fiber producers committed in total, according to this estimate, $366,300,000. Those exceeding a million dollars each included Celanese Corp. of America, E. I. du Pont de Nemours & Co., Beaunit Mills, American Enka Corp., and American Viscose Corp. The figure is nearly twice that of 1947, but it promises to shrink in 1949, as no large projects lie ahead. As previously noted, only 20% of the figure for this group is included in the textile total.

TOP SPENDERS. The list of companies, other than synthetic-fiber producers, which are spending over $1,000,000 each in 1948, as reported in the "News About Mills" department of TEXTILE WORLD, includes the following: Clark Thread Co.; Springs Cotton Mills; Mooresville Mills; Huntsville Cotton Mills; Evangeline Cotton Mills; Cone Mills; Jackson Mills; the Johnson chain of mills; New-

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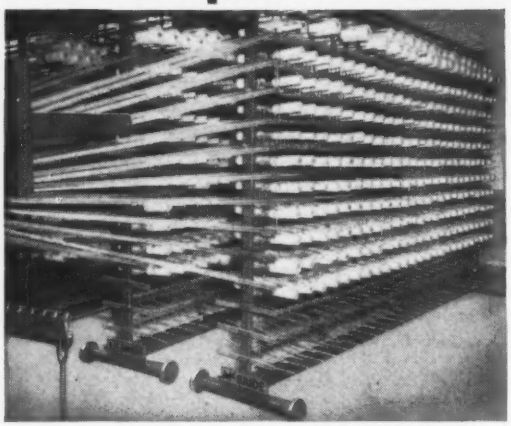

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berry Cotton Mills; Beacon Textiles; Hart Cotton Mills; Bigelow Sanford Carpet Co.; J. P. Stevens & Co. (numerous mills); William Whitman Co.; Varel Mills; Cleveland Worsted Mills Co.; Hayward-Schuster Mills; Deering, Milliken & Co. (numerous mills); Mack Kahn Mills; Textron Inc.; Ottaray Mills; Duplan Corp.; Burlington Mills (numerous mills); Greenwood Mills; Pilot Full-Fashioned Mills; Chester H. Roth Mills; Standard Hosiery Mills; Skyland Hosiery Mills; and John Bancroft & Sons Co.

It is an interesting fact that a list similarly compiled last year contained 28 names while the one just given contains 29 names, and that there are only five companies whose names appear on both lists. There are doubtless important omissions from each list, but the fact that every year finds a new group of companies among the top spenders is significant of the steady spread of the doctrine of modernize, or else!

Machinery prices and building costs together have about doubled since 1939. Wages over the same nine years have about trebled. Economists point out that when competition becomes keener and margins shrink, the obsolete mill which tries to do by labor what the modern mill is doing mechanically will be in a weaker position than similarly placed mills prewar. Predictions are that marginal mills will fold up rapidly when and if an era of pressure develops.

THE OUTLOOK. A year ago, this survey said in closing, "There is likelihood that the 1948 figures will top those for 1947." Although many other industries marked their record highs in 1947 and receded in 1948, textiles did not follow that trend. Business in textile products has remained fairly good, despite the slight recession in cotton and wool goods; profits and surplus have provided the means for investment in buildings and equipment.

Only 25% of the money needed for the various modernization and expansion programs in industry at large has been raised by borrowing, according to a McGraw-Hill survey.

Textile mills have recognized that to be modern and efficient is to survive.

The fact that the large textile-machinery firms are still sold two to three years ahead is a clue to continued large expenditures by mills. However, 1948 probably concludes the major postwar programs. From now on, operations will be closer to strict modernization needs stimulated in larger degree by the extent to which improvements in

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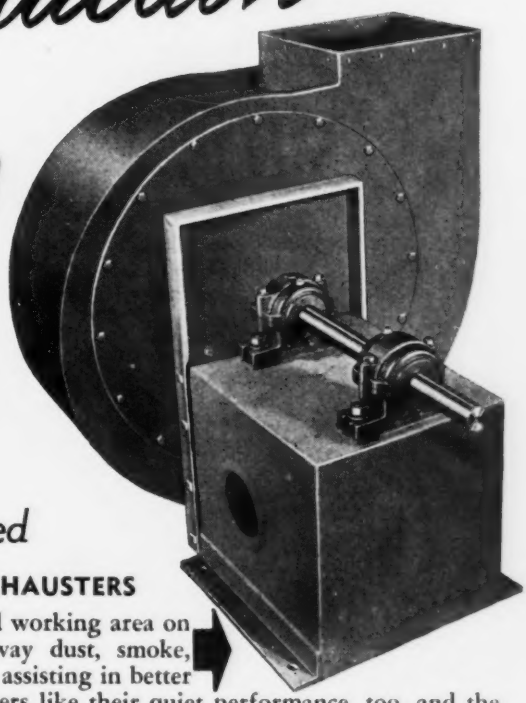

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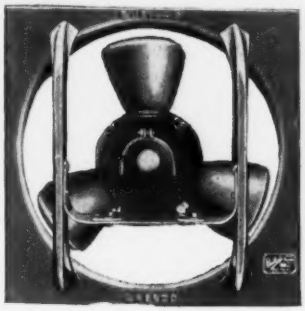

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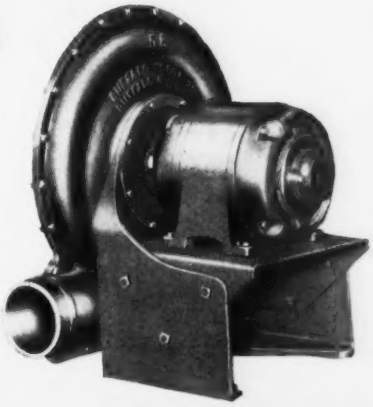

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Textile Wet Processing Show Meeting With Wide Acclaim By M'f'rs And Technicians

Exposition set for March 1949 in New York will have Exhibits of Processing Machinery, Equipment, Dyestuffs, Chemicals, etc.

The marked interest in the Wet Processing Show to be held in New York, March 1949, by those engaged in the dyeing, bleaching, printing and finishing of textiles, is clearly indicative of the need for such an exposition, according to comment in trade circles. This exposition to be held in the 71st Regiment Armory, 34th St. and Park Ave., March 21 to 25, inclusive, is filling a niche in the industry for this highly specialized audience. At the same time it opens a wide avenue for the displays of processing machinery, equipment, dyestuffs and chemicals not to be found in any other exposition, according to show manager, Arthur Tarshis, President of Expositions for Trades, Inc., under whose auspices the show will be held.

Mr. Tarshis made clear that those who will attend this show and who are concerned solely with the wet processing branch of the industry, will find interest in each and every exhibit, as well as in the symposiums that are to be a feature of the exposition.

The advances made in the processing machinery, equipment and in the dyestuff and chemical industries, will be evidenced in the displays of manufacturers of these products and throughout the industry technicians predict for the show a tremendous success.

"A program of enlightenment in the textile wet processing field is what this show really amounts to," said Mr. Tarshis yesterday. "The wet processing industry is certainly the most progressive branch of the textile industry. In dyestuff and chemical circles, the progress that is being made is astounding. In the equipment field, hardly a month goes by without something new being introduced of interest to dyers and finishers of textiles.

Offices for the exposition are at 36 West 47th St., and communications for floor plans and further information on the show can be obtained by addressing Mr. Tarshis at that address.

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James A. Greer, Southern Manager
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machinery render existing models outmoded. On this basis, there is likelihood that the 1949 total of commitments and expenditures for plant and equipment will turn downward toward some level which, barring political or economic disasters, will become the norm for coming years.

Drayton Mills

(*Continued from page 112*)

mer it will go higher, depending on the outside wet-bulb temperature. This is because the system depends entirely on evaporation for cooling, and there is a limit to the amount of water that can be evaporated on certain days when the incoming air is highly humid.

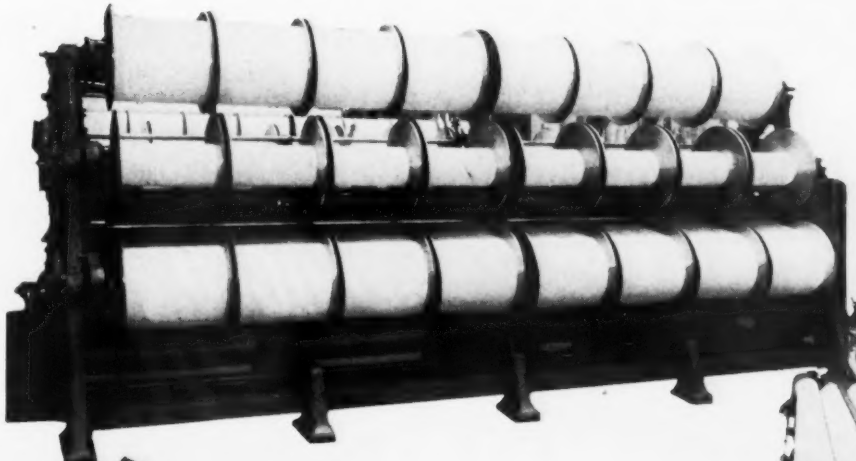
While 80° to 83° F. may sound like uncomfortable working conditions, comfort depends largely on air movement; and since the air in the room is kept constantly on the move, and undergoes a complete change 12 times an hour, comfort is assured.

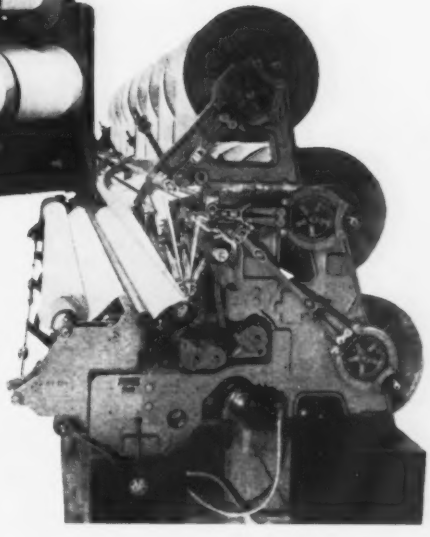
NO PARTITIONS. The uniformity of atmospheric conditions within each section is so pronounced that questions have been raised as to how this can be done without the use of partitions. Partitions had originally been built to separate the three divisions, but later they were taken out as an experiment, and it was then found that they were unnecessary. The ability to control the humidity closely is believed due principally to a distinct feature of the system, the drop outlet. The outlets are brought down to a point slightly above head level, and the conditioned air is discharged at a very low velocity as near as possible to the working level. This gives the system its name; the "low-level diffusion system."

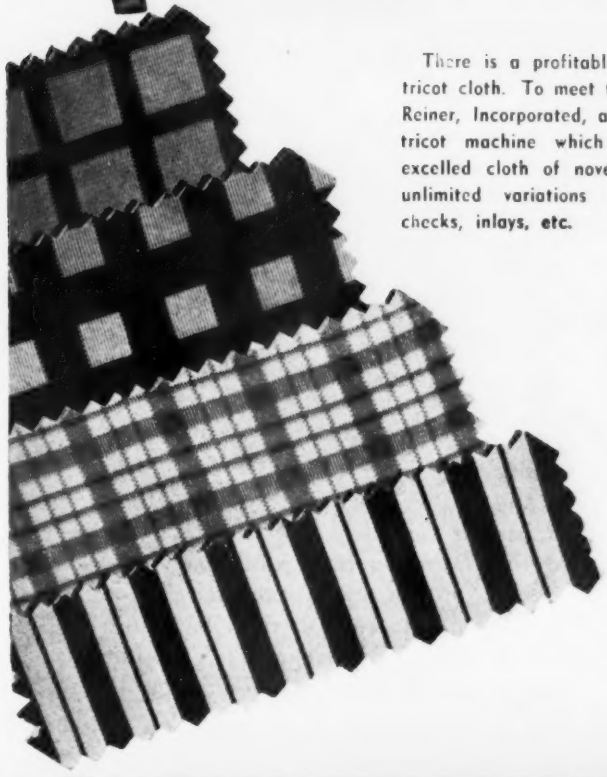
In the two central stations, located as shown on the roof of the building, are four full-housed centrifugal fans, two units to each fan house. The entire system handles 340,000 cu. ft. of air per minute.

Air enters the system through a plenum chamber where the recirculated air and the outside air are thoroughly mixed before passing through a filter section. The amount of fresh air admitted is regulated automatically and varies from a minimum of 10% to a maximum of more than 90%, depending upon outside conditions. After leaving the filter, which removes the heavier particles of lint, dust, etc., the air passes through the humidifier where it is thoroughly washed and saturated with moisture, then through the eliminators which prevent any carry-over of free moisture, and into the fan suction. From the fan, the

Here is the *Reiner* 3 BAR TRICOT MACHINE







There is a profitable market for 3-bar tricot cloth. To meet this demand, Robert Reiner, Incorporated, are building a 3-bar tricot machine which manufactures unexcelled cloth of novel design in nearly unlimited variations in plaids, stripes, checks, inlays, etc.

This 3-bar tricot machine runs at 320 courses per minute and can be stepped up to 360 courses when used as a 2-bar machine. Gauges are 14, 24, 26, 28, 32. Chain link or pattern wheel drive. The machine takes spools up to 21 inch flange diameter, or those of any conventional size.

This machine is already producing at various mills to the entire satisfaction of experienced knitters. Those interested in this profitable market are invited to write for details. Early deliveries are assured.

ROBERT REINER INC.

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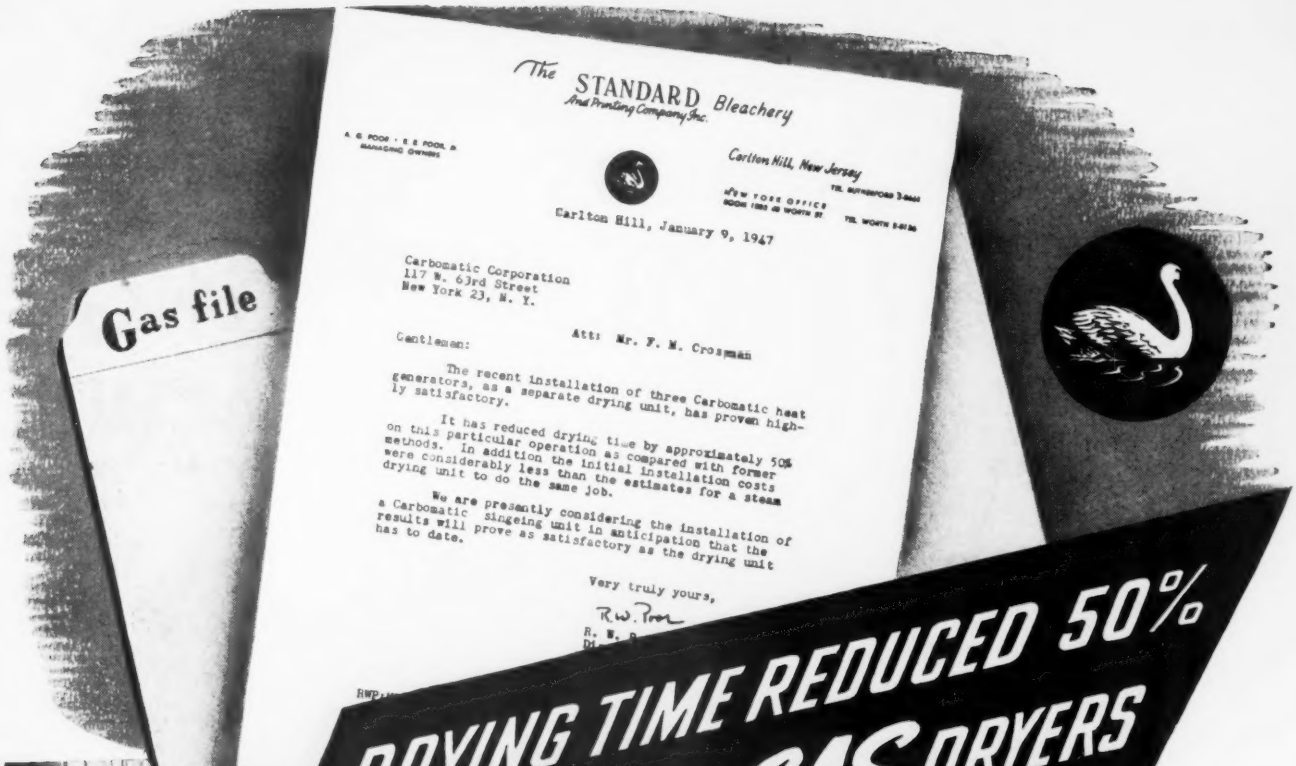
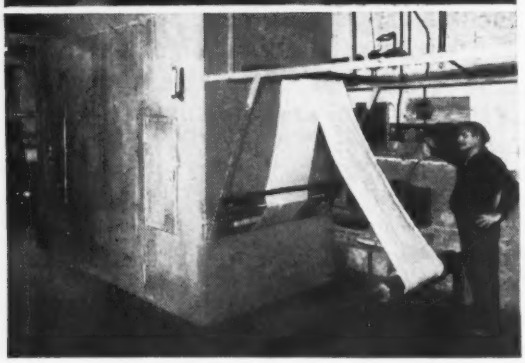

The STANDARD Bleachery
And Printing Company, Inc.
Carlton Hill, New Jersey
Carlton Hill, January 9, 1947
Carbomatic Corporation
117 W. 63rd Street
New York 23, N. Y.
Attn: Mr. F. M. Crossman
Gentlemen:
The recent installation of three Carbomatic heat generators, as a separate drying unit, has proven highly satisfactory.
It has reduced drying time by approximately 50% on this particular operation as compared with former methods. In addition the initial installation costs were considerably less than the estimates for a steam drying unit to do the same job.
We are presently considering the installation of a Carbomatic singeing unit in anticipation that the results will prove as satisfactory as the drying unit has to date.
Very truly yours,
Gas file

DRYING TIME REDUCED 50% BY INFRA-RED GAS DRYERS

Interior of dry-box showing arrangement of Gas-fired ceramic burner drying unit



Bleachery dry-box equipped with Gas-fired infra-red ceramic burners

There's nothing really new or unusual about The Standard Bleachery's experience with modern Gas-fired textile processing equipment. But their records of approximately 50% reduction in drying time serve to confirm the results in dozens of plants.

In fabric singeing, too, Gas-fired infra-red burners have achieved quite astonishing success. At cloth speeds of 300 to 500 yards per minute both sides of the fabric can be singed at one time, so that re-winding is eliminated; no flame penetrates the cloth to scorch or weaken the fibers.

GAS is the ideal fuel for textile processes requiring heat. The flexibility of Gas Equipment, and the controls which automatically maintain the exact temperatures for any type or weight of cloth, permit the application of GAS right in production line for drying, polymerizing, curing, slashing.

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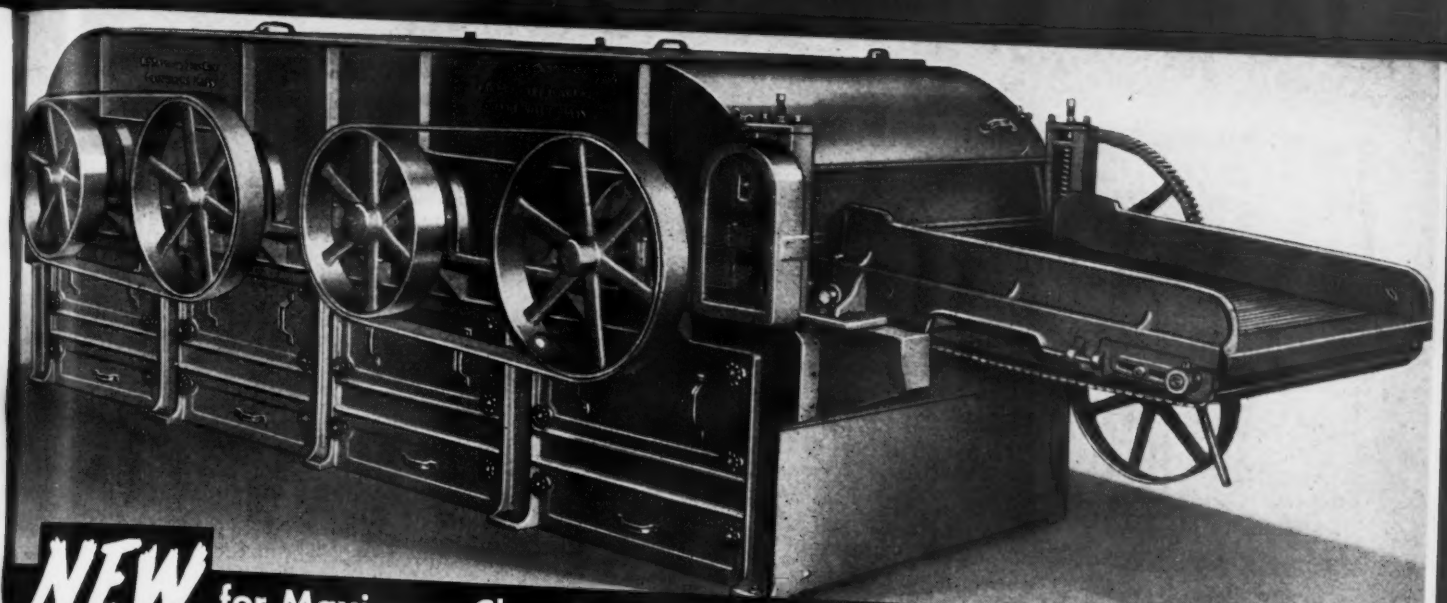

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air follows a main duct which extends through approximately the center of the room. Lateral ducts branch off from this main duct and extend across the room in both directions. These laterals are 30 ft. on center and have diffusion bottom outlets spaced along the lateral every 13½ ft.

The system is so designed that relative humidities up to about 70% are maintained by regulating the volume of air from the distributing ducts. Above this value, additional moisture is put in the room through atomizers which operate automatically through the same control that regulates the air volume. Each zone has its own control which automatically controls the relative humidity and records both humidity and temperature in that zone. Each apparatus is controlled by a dewpoint controller which allows saturated air to be delivered to its zone at a predetermined dewpoint most favorable to the desired condition in that zone.

Water from the city supply is used in the humidifying process. In the suctions of the pumps handling this water a chemical is introduced which prevents corrosion and retards the growth of bacteria. Thus, clean, pure, constantly changing air is being delivered to the room.

Temperature is being maintained usually within ½° F. The management is strongly of the opinion that this constant temperature as well as the regulated humidity improves the quality of the work as well as employee morale.

Pineville Modernization

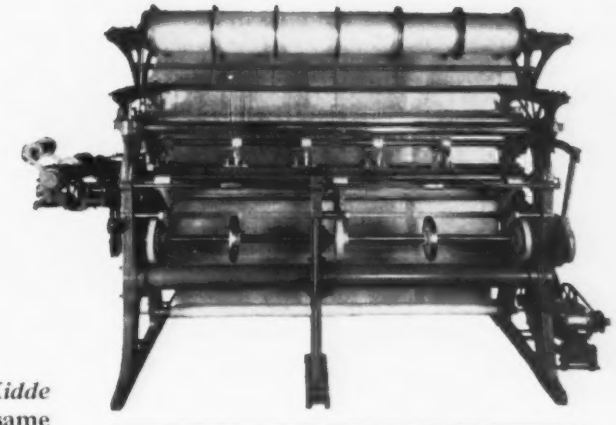
(*Continued from page* 109)

garded as a sound foundation for the rugged requirements of a weave room. Fifteen years ago, engineers building earth dams learned that, with new types of grading equipment, an earth fill could be built denser than the natural ground. Moreover, earth-dam and highway construction showed that on a stable foundation a new earth fill which had a higher density than natural ground would not settle. But this new idea was not accepted for industrial construction until the demands of war forced a trial. Experience of engineers using such a rolled-fill foundation for the gaseous-diffusion plant of the atomic energy project at Oak Ridge, Tenn., provided the know-how; and a site for the weave mill was man-made accordingly.

At Oak Ridge, as later on a tiny scale in the Pineville project, the only solution was to cut off the hills and fill in the ravines with a rolled, compacted earth fill. To achieve the desired density in such a fill, several factors must be given full considera-

Are you making

LACE EDGINGS?



For Better Quality and Higher Production, investigate this machine

Finer, tighter lace edgings can be produced on the *Kidde* Knitter than were possible on prewar machines of the same type. Five or six guide bars can be used to produce edgings of a quality that are much in demand. Even on six guide bar work production speeds of 150 courses per minute or better are being maintained.

That's a substantially higher rate of production than has ever been attained on this type of machine before—but it's *typical* of the high, *sustained* speeds possible with the *Kidde* Knitter. A new drum drive, a new motion on needle bars make these speeds possible—and the machine is designed throughout to withstand them.

You'll find the *Kidde* Knitter adaptable to practically any type of yarn, thread or elastic—quickly and easily set up for simple or intricate patterns.

Use the Kidde Knitter on these fabrics too

ELASTIC FABRICS for corsets, girdles, brassieres. DRESS FABRICS. DISH CLOTH MATERIALS. CURTAINS. NARROW FABRICS: edgings, braidings, laces. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters, polo shirts.

Write for free literature on the Kidde Knitter—or, better still, see for yourself what it can do. A machine is in operation at our Bloomfield plant—write for an appointment for a demonstration.

The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

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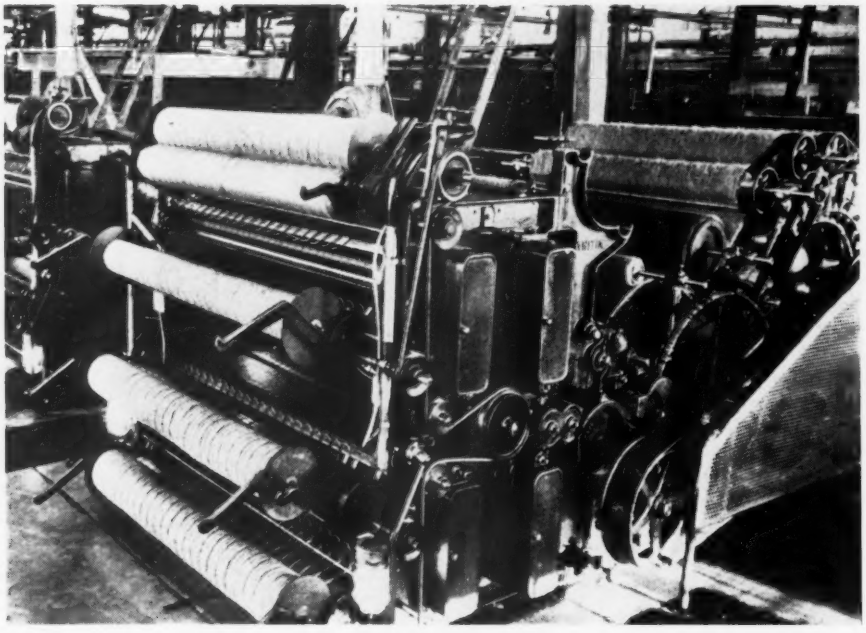

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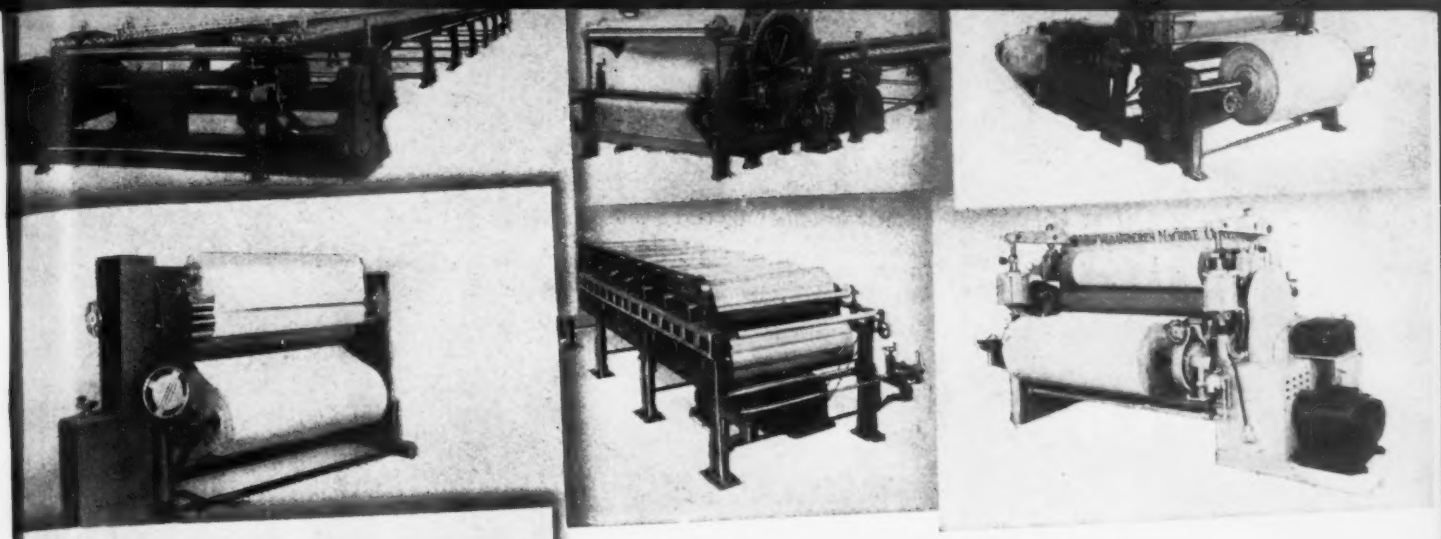

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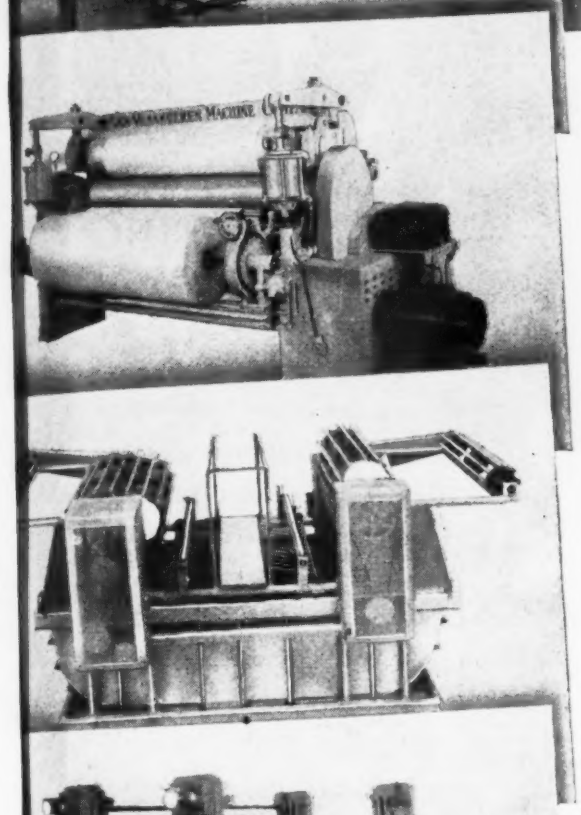

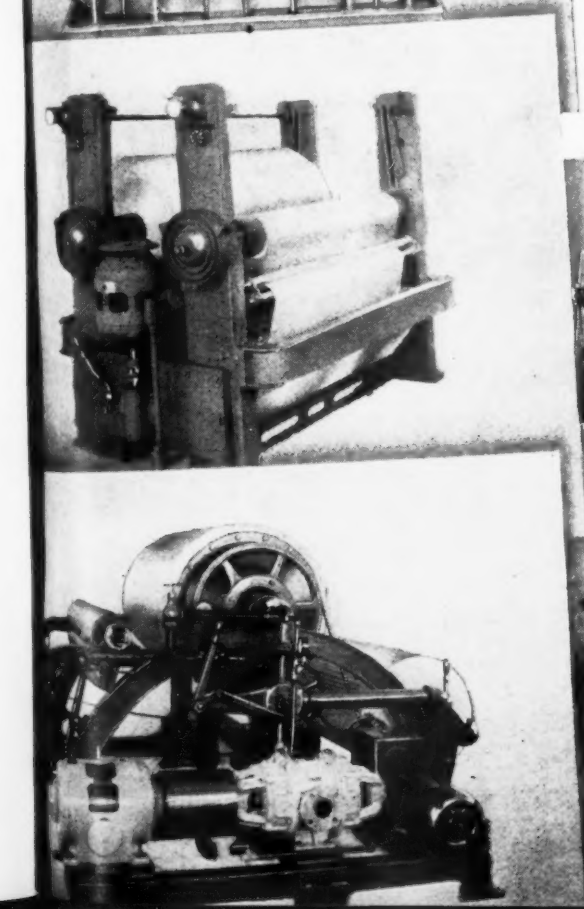

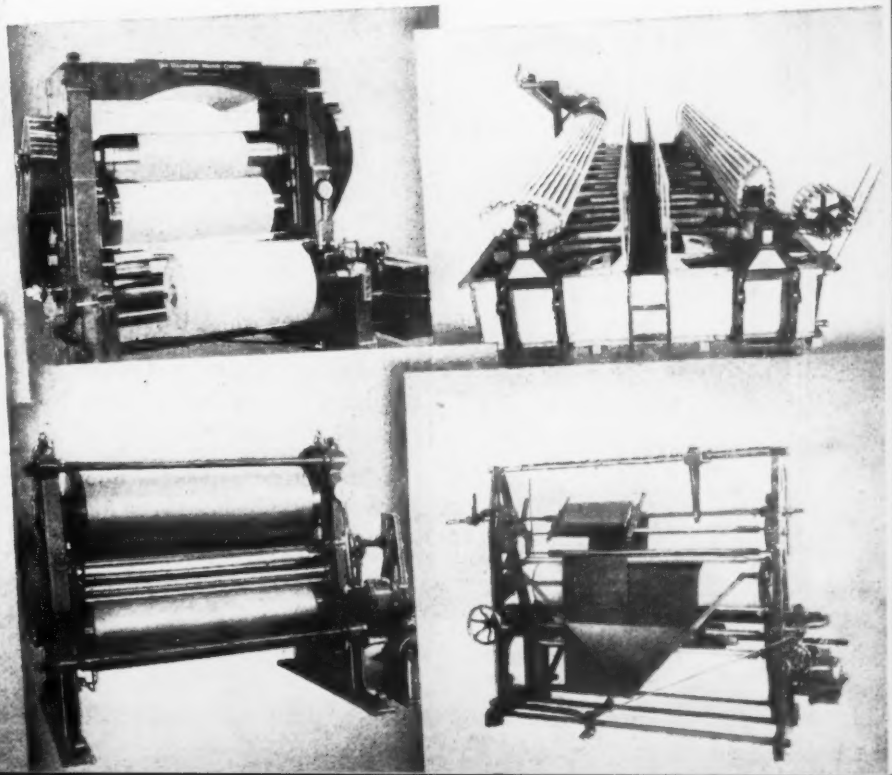

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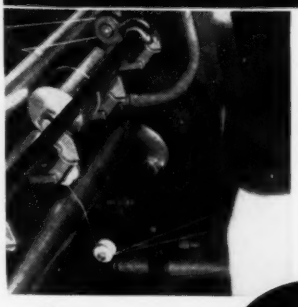
tion: (1) the earth fill must be placed in thin layers of not more than 6 in., (2) each layer must be carefully rolled with a heavy sheeps-foot roller, (3) the soil moisture must be controlled carefully and maintained at about 20% to achieve and maintain maximum density of the soil. Such an earth fill was and can be built today in accordance with these considerations with the grading cost not exceeding by more than 10 to 20% the haphazard methods which have been used in the past.

The Pineville earth fill had a maximum height of 15 ft., built according to this prescribed method. As soon as the fill construction was completed, concrete footings to support the roof were poured directly on top of the fill. Two thirds of the weave mill floor rested directly on this rolled fill. Moisture was kept out of the floor by a 5-in. layer of clean crushed stone over which was poured a 5-in. concrete slab. When the crushed-stone layer is connected to outside drainage, the stone cannot be flooded by storm water; and normal capillary moisture cannot rise at any time through the large pore spaces of clean crushed stone.

The concrete slab provides the strength and rigidity necessary in a weave-room floor, but a wood floor is required for proper cleanliness and comfort, and for practical considerations in loom installation. It is quite feasible to glue a maple-finish floor to a concrete slab, but such a procedure would make difficult the wiring under the floor to each loom. For this reason, the next segment of the floor is a 2-in. wood sub-floor attached to the concrete slab by a cold asphalt mastic. Grooves will be rabbeted out in the sub-floor in which to lay the conduit for the power wiring to each loom. Maple flooring will be nailed to this sub-floor.

BRACING. Anticipated vibration over the basement area was the next technical difficulty. This involved the one-third of the mill which would be supported by a structural-steel frame to make basement room for cloth storage and supplies. The operation of looms in this portion of the building inevitably would set up horizontal vibrations which would be very damaging to the building itself and to all equipment. A solution is being tried based on the fact that the basement area will be surrounded on all sides by reinforced-concrete walls to which the horizontal vibration forces might be transferred. These horizontal vibration forces will be transferred laterally by diagonal bracing to these concrete walls rather than to allow these vibration forces to build up and ac-

U. S. RING TRAVELERS



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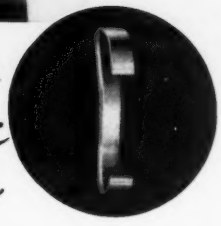

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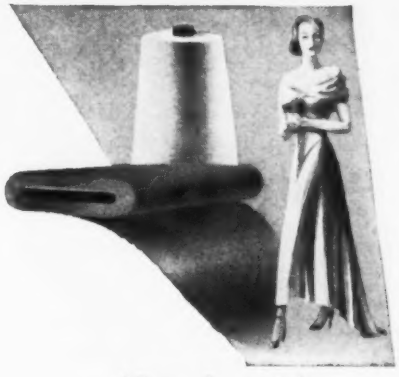
WHAT DO TREES HAVE TO DO WITH TEXTILES ?



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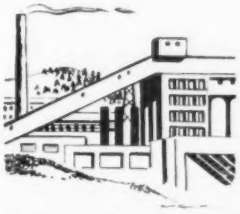

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Rayonier does not manufacture yarns or finished textile products; but for nearly twenty years the domestic textile industry has looked to our mills as a source of supply for the purified wood cellulose needed to produce fibers and yarns. Today, nearly half of this industry's wood cellulose requirements are being met by the Rayonier organization.

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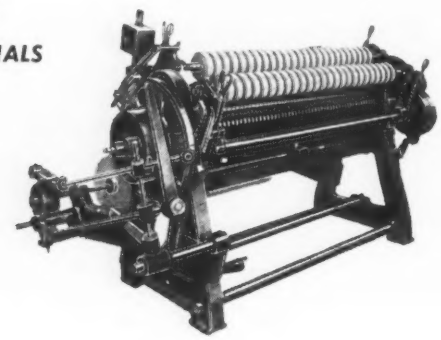
TACKY MATERIALS

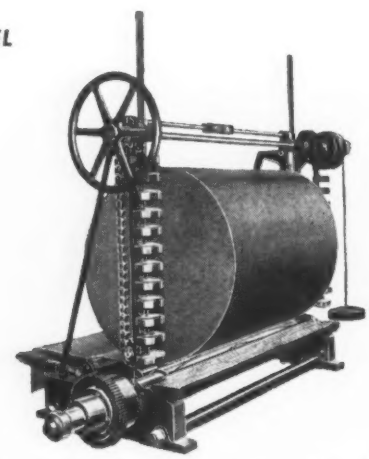


CAMACHINE 26-3A is especially designed for handling tacky or unevenly coated materials, such as adhesive tapes. Machine widths 26" to 56". Accommodates a 32" diameter mill roll. Rewinds rolls as narrow as ½", or up to 17¼" in diameter. Operates at speeds up to 400 fpm.

BIAS BINDING

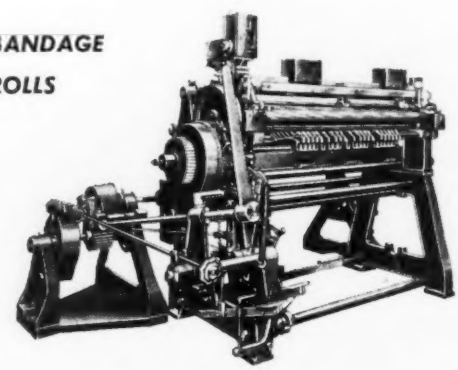
CAMACHINE 40-3L is the ideal machine for converting straight and bias binding fabrics (also specialty fabric) into strip in rolls. Machine widths 26" to 56". Accommodates material from roll, piece or fold. Rewinds rolls as narrow as ½", or up to 22" diameter. Speed up to 150 fpm from fold; higher from roll.

LOW MODEL WINDER



CAMACHINE 44-W low model winder operates in conjunction with processing machines as in bleacheries, fabric printing plants and bag factories. Available in machine widths from 32" to 82". Produces firm, uniformly rewound rolls up to 36" in diameter at speeds up to 1000 fpm.

BANDAGE ROLLS



CAMACHINE 40-4B, a semi-automatic machine for fast production of gauze bandage rolls. Machine widths 42" to 50". Accommodates 24" diameter mill roll. Rewinds rolls as narrow as ½", or up to 12" diameter. Machines come equipped with automatic stop for producing rolls of predetermined length.

Cameron Machine Company, 61 Poplar St., Brooklyn 2, N. Y.

WRITE FOR LITERATURE

AA—108

Camachines

FOR FAST, TOP QUALITY ROLL PRODUCTION

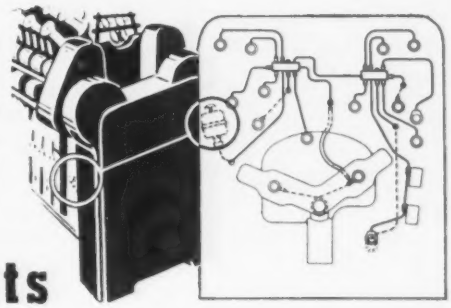
. . . the world over

LEADING MILLS

PROFIT

with "metered" lubrication!

Here's one case history . . . a leading Southern mill (name on request) compared Bijur lubrication on 244 spinning frames with hand oiling on the rest of their 500 spinning frames, and realized a saving of over 46 man hours of oiling time per week . . . plus a 33 1/3% reduction in lubricant. By converting maintenance time into more time for production, the Bijur system helps protect profits!



Bijur-oiled bearings cut costs

by running smoothly on a correct oil film constantly maintained while the machine operates. Bijur automatic lubrication is simple, effective, and "metered" to each individual bearing's need. As a result, oiling time is reduced, operators are released for *production*, there's no drip, drainage, or waste. Maintenance and down-time are minimized . . . and you avoid stained fabrics and interrupted production schedules from improper lubrication when you use Bijur.

● *Completely closed, central, custom-engineered lubrication:* Here's a typical spinning frame installation where the Bijur system regularly lubricates 17 important points, all concentrated within the head end, while the machine is in operation. Each point automatically receives its required "metered" quantity of oil at one and the same time. There's no oiling time, down-time, or "forgotten" bearings with Bijur on the job.

When ordering new machines . . . specify BIJUR!

BIJUR LUBRICATING CORPORATION

LONG ISLAND CITY, ● NEW YORK

Write today for your copy of "Metered Lubrication of Textile Machinery"

BIJUR Lubricating Corp. Long Island City 1, New York

Please send me a copy of your Bulletin 6A
"Metered Lubrication of Textile Machinery"

NAME..... TITLE.....

COMPANY.....

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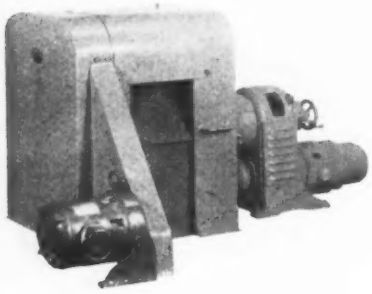
Make your own RAYON STAPLE

—with this efficient



TAYLOR-STILES STAPLE CUTTING MACHINE —

Leading mills cut continuous filament rayon to any staple length—1¼, 1⅛, 2″, or any length from ¾″ to 12″—that is required in their production—accurate to within 1/16th of an inch and uniform thereafter.

Changing length of staple is simple, by an adjustment, easily made in less than twenty minutes. Variable speed drive is optional, for making this adjustment.

Write for complete description and prices of this machine and also for illustrated data sheets regarding our thread waste and rag cutters.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

15 Bridge St., Riegelsville, New Jersey

cumulate transversely across the building. The horizontal loom vibrations will occur from left to right. These forces will be checked by the diagonal bracing which is riveted to the top flange of the floor beams in two of the eight bays. These two bays will serve as trusses which will carry the horizontal forces running transversely from north to south through the diagonal bracing to the concrete walls on the east and west. An added advantage to this design is that 12-in. extra head room is added to the basement height by being able to reduce the depth of the steel floor girders in the same amount.

Other features of the new weave mill are of conventional modern design. Finless unit heaters, evaporative cooling for all air conditioning, and fluorescent lighting with an intensity of approximately 50 ft. candles are being specified. Loom beams will be handled by an interlocking system of bridge cranes serving every part of the building, and baled cotton and cloth will be transferred by electric lift trucks. A dumb waiter from the supply room to the weave room will handle spare parts. Finished cloth will travel from the inspection tables to basement storage, and then to a truck-loading platform at the basement level. Color is being incorporated in the new buff ceramic and red quarry-tile toilets with adjacent smoking rooms, in the cool greens of the production areas, and in the glass-block architectural detail.

The old weave mill will be overhauled in the manner of the old spinning mill. Final step in remodeling will be construction of a new office building which will face center front on the plant properties.

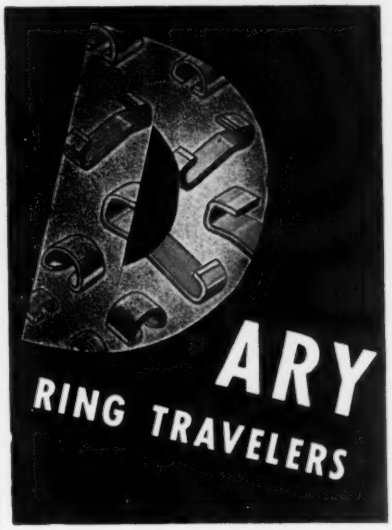
The full renovation program is scheduled for completion in March, 1949. In the meantime, production is continuing and morale is improving steadily as the employees realize they are associated with a company whose policy is to keep up to date.

Design work is being done by Watson & Hart, Greensboro, N. C., working in conjunction with the engineering department of the Cone Mills Corp. Edward Loewenstein, Greensboro, did the architectural design. The general contractor is the Southeastern Construction Co., Charlotte, N. C.

Hayward-Schuster

(*Continued from page* 118)

Several problems were solved by combining the finishing of all the plants into a new building, and substantial reductions in operating costs could be made. The new building is



EXPERIENCED TRAVELERS

Dary Ring Travelers are old hands at making that familiar trip around the spinning ring. Their extra-fine quality has made their on-the-job performance really outstanding—even under the most difficult conditions. Dary Ring Travelers last longer—run weeks at a time without change; and they permit the use of higher spindle speeds.

Dary Ring Travelers are manufactured by the exclusive Dary Process to give you *better* service. You are assured of the finest workmanship and guaranteed weight, temper and stock.

Yes, Dary Ring Travelers are known for their experienced, efficient trips around the spinning ring. Why not let this Dary experience work for you? Your friendly Dary representative will be glad to give you further details.

PROCESSED
SYMBOL OF SUPERIORITY

The DARY RING TRAVELER CO.
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-with Superb Precision

The "W & G" Machines are noted for technical excellence in maintaining, under a consistently high rate of production, those refinements in beautiful styling that set apart delicate creations from run of the mill garments.

The superb precision of "W & G" machines, for example, assures perfect stitching, strong, smooth and dependable, in keeping with smart appearance of the sheerest and frothiest lingerie.

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stitched almost exclusively
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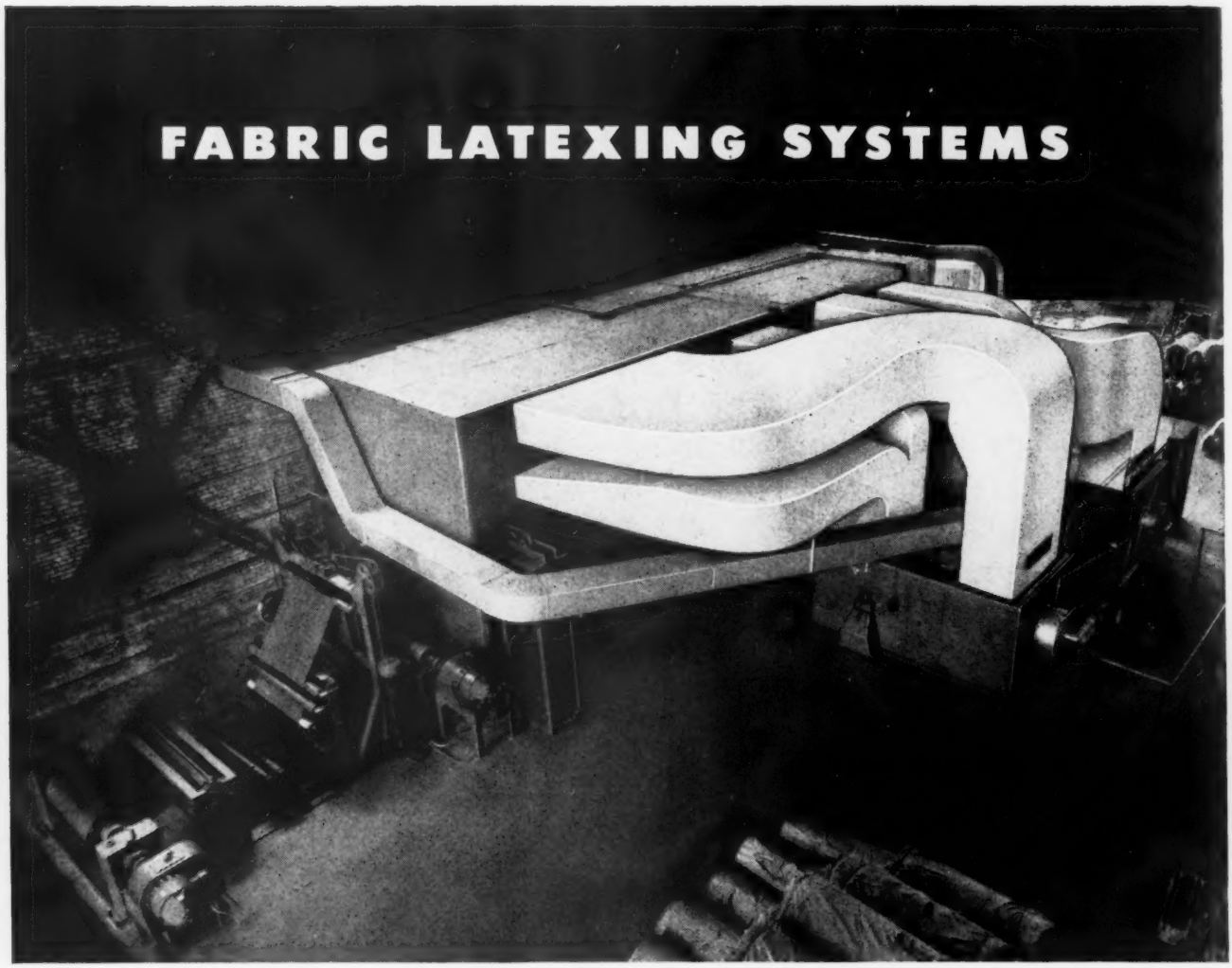

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IOI builds coating and impregnating systems for all types of paper, fabric, film and foil processing—in all production ranges.

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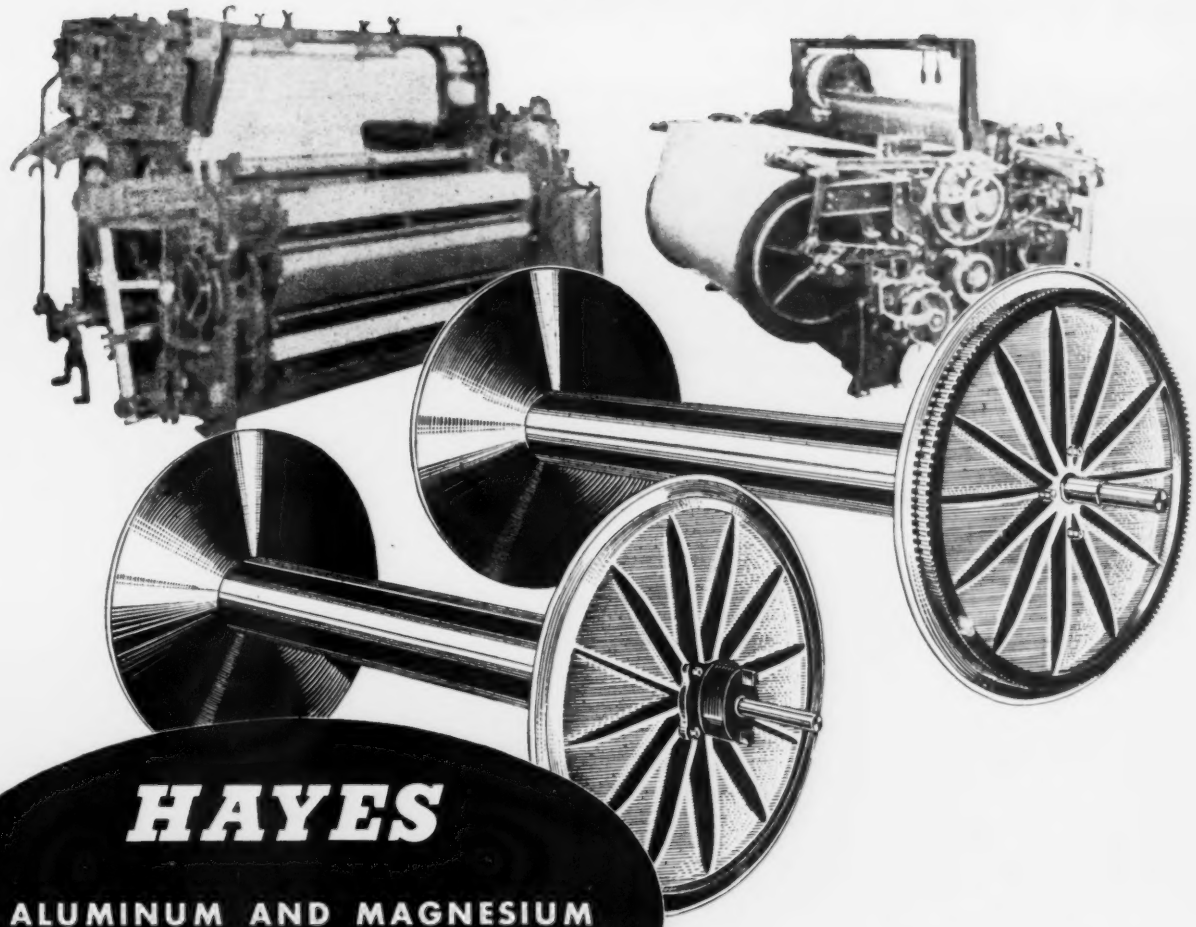


HAYES

ALUMINUM AND MAGNESIUM

LOOM BEAMS

LIGHTER WEIGHT

plus

greater strength, higher machine speeds, easier handling

The light metal construction of Hayes Aluminum and Magnesium Loom Beams provides the textile industry with certain definite advantages. Foremost among these is the greatly reduced weight, which is one-half as much as the conventional loom beam. Despite this lightness, Hayes Loom Beams retain the full measure of strength. Beams equipped with thirty-two inch heads permit greater yarn loading and as much as six months weaving time. They may also be obtained in head diameters as small as twenty inches. Hayes Loom Beam heads are designed to have the least possible deflection even when loaded with fine denier acetate yarn. Barrel and head faces are machined to the closest tolerances for accuracy, and have polished, smooth surfaces for protection against catching and breaking the warp. Loom beams are produced with in between head dimensions to suit the Manufacturers' specifications.

Write or wire today for full information on Loom Beams, Tricot Beams and Section Beams. Ask for Catalog 1-21.

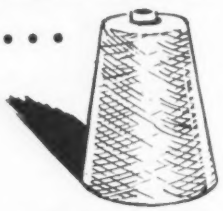
HAYES INDUSTRIES, INC.

HOME OFFICE: JACKSON, MICHIGAN, U. S. A.

An Entirely NEW SADDLE

That *SAVES MONEY* Here . . .

And *MAKES MONEY* Here . . .



BY FRICTIONLESS OIL-FREE DRAFTING

The new Dixon saddle* for long draft spinning *saves* money by reducing operating costs, and makes money by increasing yarn quality and production. It's an entirely new saddle featuring replaceable SLIXONICE* bearings, and the first radical improvement in saddle design in many years.

Here's how the new Dixon SLIXONICE saddle cuts costs and increases quality and production:

ELIMINATES OILING AND ROLL SCORING

REDUCES ROLL PICKING, LINT ACCUMULATION AND AVERAGE POWER CONSUMPTION

PERMITS QUICK REPLACEMENT OF WEARING SURFACES AND VARYING PRESSURES OVER A WIDE RANGE OF ROLL SPACING

Send for the illustrated booklet shown here and read more detailed information on the new Dixon SLIXONICE saddle. It can save you the money you are spending now, and make you the money you are losing now.

*Trade Mark: Pat. Applied For

DIXON
LUBRICATING SADDLE CO
Established 1876
BRISTOL — RHODE ISLAND
Sole Manufacturers of
SLIXONICE
Saddles and Cap Bar Nebs

located near the Schuster Div. in East Douglas because: (1) the existing steam plant, with some additions, could supply the new finishing plant's steam requirements; (2) suitable land was available; (3) the additional employees could be obtained; (4) process water could be secured from the river or other sources; and (5) it was well located with reference to the other plants.

The new building was joined to existing structures. In making the connections, existing walls were removed, and the old and new so joined that they operate as an integrated unit. Parts of the existing building were incorporated into the finishing plant, and some cloth-manufacturing operations are in the new building.

The new building is 365 ft. long by 202 ft. wide, of which 268 ft. is two stories high and the remainder one story. Construction is steel frame with wide column spacing, brick curtain walls, and extensive continuous glass areas in galvanized-steel sash. The first floor is partially of special concrete construction and partially of vitrified-brick top on a concrete base to resist wear in heavy trucking areas. The second floor is plank on steel beams and has a maple top floor. The roof is of plank construction with the usual roof cover. Monitors were provided over both the one- and two-story parts to provide additional natural light and ventilation.

Some unusual features in the construction are designed to meet special requirements. An inclosed truck dock capable of holding two trailer trucks on the first floor level is adjacent to the finished-goods storage for shipping. A second truck dock of the same size on the second floor level is designed for the unloading of gray cloth from the other plants. Advantage was taken of the slope of the land to provide ramps to each of the docks.

A complete system of machine trenches is of ample size for the installation and maintenance of machines such as fulling mills, washers, and dye kettles. When waste from the machines contain acid, special treatment was used in the trenches to avoid disintegration of the concrete. A complete drainage system was built under the floor with frequent outlets to which the floor is pitched. The windows in the west elevation, including the monitors, are glazed with blue glare-diffusing glass with the exception of a single row of clear glass at the bottom.

LAND RECLAIMED. An old tailrace from a small hydro plant crossed the proposed site, skirted along the building, and emptied into the river below

F—12A

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IT'S **news...**

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Maybe Industry doesn't maintain show windows on Fifth Avenue or State Street or Wilshire Boulevard like America's great department stores. But your industry has a mighty effective show window... *and this is it*... this magazine. In these advertising pages alert manufacturers show their wares. Here you will find up-to-the-minute news about products and services designed to help you do your job better, quicker, and cheaper. To be well-informed about the latest developments in *your* business, *your* industry... and to stay well-informed... *read all the ads too.*

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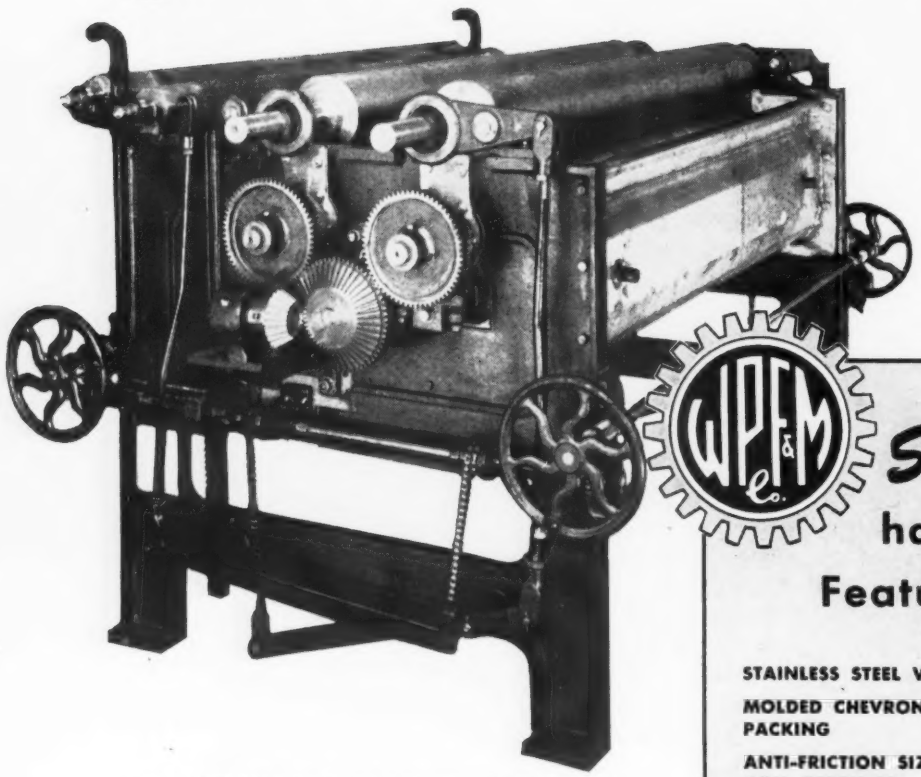
CELALOOM*

A group of established, well-accepted drapery fabrics of 100% Celanese* acetate rayon staple fiber. Celaloom fabrics have a high degree of dimensional stability, are easily cleaned, adaptable to each decorative style . . . you will recognize all of these qualities in drapery fabrics made with a high percentage of Celanese staple fiber. Celanese Corporation of America, New York 16.

Celanese* Acetate Rayon Staple Fiber

*Reg. U. S. Pat. Off.

ARE YOUR SIZE BOXES UP TO DATE?



SIZE BOXES have the Modern Features you Need!

- STAINLESS STEEL VAT
- MOLDED CHEVRON PACKING
- ANTI-FRICTION SIZE ROLL BEARINGS
- ANTI-FRICTION SQUEEZE ROLL BEARINGS
- MECHANICAL OR PNEUMATIC SQUEEZE ROLL LIFT
- DEEP BRASS STUFFING BOXES
- HEAVY BRASS OR STAINLESS STEEL SIZE ROLLS
- ANTI-FRICTION GUIDE ROLL BEARINGS
- LIGHT CORROSION RESISTANT GUIDE ROLLS
- ANTI-FRICTION SIDE SHAFT BEARING

The WPF&M Size Box has the up-to-the-minute improvements necessary for top performance. The replaceable, all-welded stainless steel vat, with steam jacket if desired, supported between two sturdy, accurately machined cast iron side frames, has a capacity of 55 gallons.

Size rolls, with either heavy brass or stainless steel shells, and squeeze rolls are mounted on ball and anti-friction bearings in accurate alignment, reducing friction and stuffing box wear to a minimum. Deep brass stuffing boxes with six rings of chevron type packing provide superior sealing and extra protection for size roll bearings. Plain or cage type immersion roll can be brass or stainless steel.

The mechanical squeeze roll lift permits one man to lift heavy squeeze rolls easily. Also available with pneumatic type squeeze roll lift and McGann winding device. Furnished with cut gears or sprocket drive.

This WPF&M size box is typical of the modern mill machinery developed and manufactured in our foundry and shop. Let us help make your manufacturing economical and more efficient. We will gladly make a study of your equipment without cost or obligation and submit proposals with estimates. Often equipment you already have can be modernized at minimum cost. If we can help, write or call us.

Manufactured by

WEST POINT FOUNDRY & MACHINE CO.

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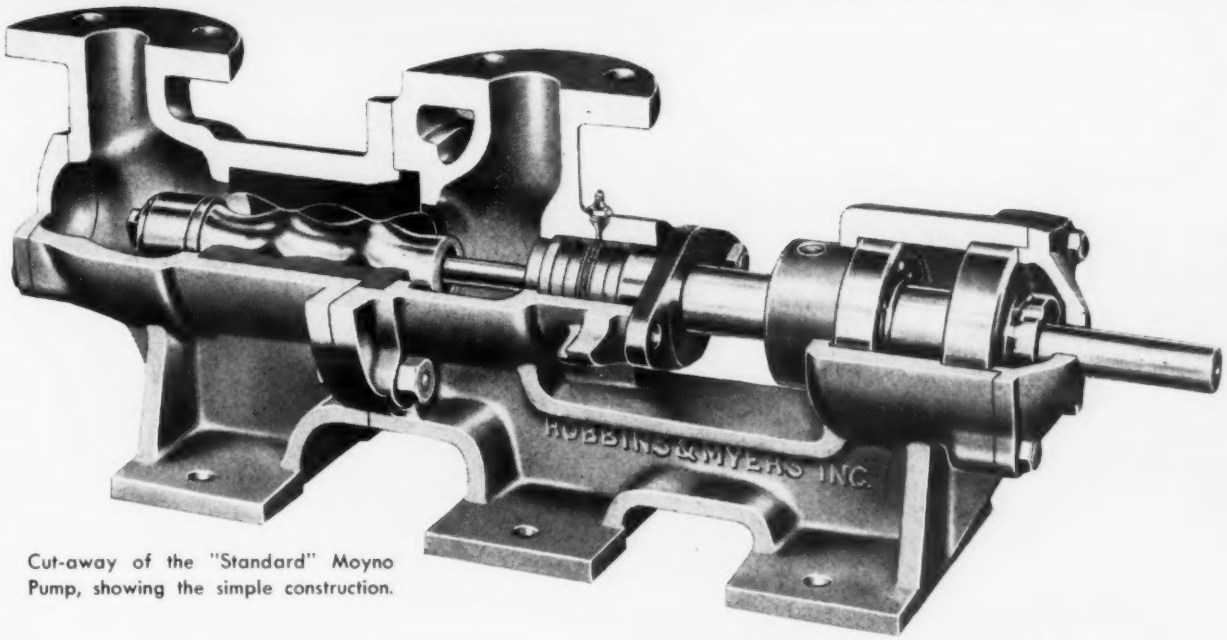
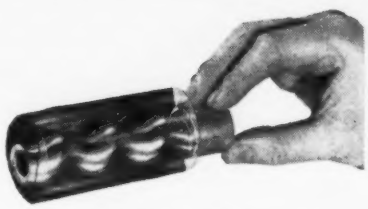


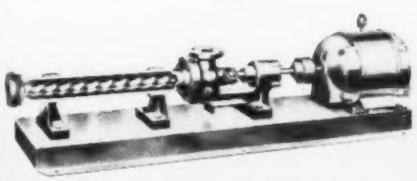
Cut-away of the "Standard" Moyno Pump, showing the simple construction.

R & M
MOYNO®
PROGRESSING-CAVITY
PUMP



NO PISTONS • NO VALVES
NO HI-SPEED IMPELLERS

Moynos have no flow restrictions to cause high turbulence, no crevices to hamper cleaning. Rotor and stator are made of materials best suited to the need. Moyno pumping is smooth, reliable, *and quiet.*



Cut-away of the Tubular Moyno, for higher pressures and concentrated abrasives.

Here's the pump that handles sizing, stiffener, water repellents, dyes—virtually *everything* from volatile liquids to non-pourable pastes. R & M Moynos pass particles and solids in suspension . . . resist abrasives and chemicals . . . meter flow . . . self-prime and reverse . . . *keep on pumping when others fail.*

MADE FOR LONG LIFE. The unique Moyno "Progressing-Cavity" pumping principle uses only *one moving element*—a single-helical rotor turning in a double-helical stator. Bearings are *outside* the pumping compartment. Discharge is smooth, continuous, and *non-pulsating,* with pressures up to 1000 p.s.i. Continuous, *ever-changing* seal lines prevent concentrated wear. You'll be surprised at the savings in maintenance.

If it will Push through a Pipe . . .

If you're having pumping trouble, call in a Moyno man. Chances are he'll have your answer. Moynos are available in types and sizes for all needs. For full details of these amazing pumps, write the Pump Division for Book No. T-22W. It's free.

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for COTTON AND SYNTHETIC FIBERS

the plant. This tailrace was used for the disposal of manufacturing waste. The hydro plant was removed and the tailrace replaced by a reinforced-concrete pipe which provided the drainage for the new finishing plant. A considerable area of reclaimed land was thus added to the mill yard at a point where it was very useful. The contours of the site were such as to require the removal of approximately 80,000 cu. yd. of earth in order to maintain the same floor levels in the new and old buildings. This material was all used in the backfilling of the tailrace and provided a parking area for employees' automobiles which is both convenient and safe.

The building is provided with modern stairways and toilet facilities. An administration office for the department was constructed adjoining the building for easy accessibility.

An important part of the program was the securing of an adequate supply of good process water. The mill had previously taken its process water from the river without treatment, but this source was badly polluted by mills upstream and natural elements. It was desirable that a better water be obtained, either by treatment and filtration of the river water or from wells. The estimated construction and operating costs of a filter plant for the river water were excessive. Exploration in the vicinity of the plant resulted in the location of an adequate and suitable supply of ground water. Two gravel-packed wells were developed, and the site of a third was determined. Each well is inclosed in a concrete house which contains the well pump, motor, piping, meters, etc. The combined pumping capacity of these wells is 1,500 gpm. Water is delivered through a Transite pipe to a 300,000-gal. steel storage tank and the mill piping. The well pumps are automatically controlled by the water level in the storage tank.

HOT WATER. Hot water used in finishing is supplied from the cold-water system and passed as cooling water through the surface condenser of a 1,250-kw. turbine and into two wood storage tanks having a capacity of 150,000 gal. These tanks stand on the hot-water system which supplies the machines. A secondary heater, supplied with extraction steam and located between the condenser and the tanks, automatically maintains the water temperature at the predetermined point. This arrangement of equipment provides a most economical method of heating water.

A complete system of process piping in the finishing building supplies hot and cold water and high- and low-pressure steam to each machine ac-

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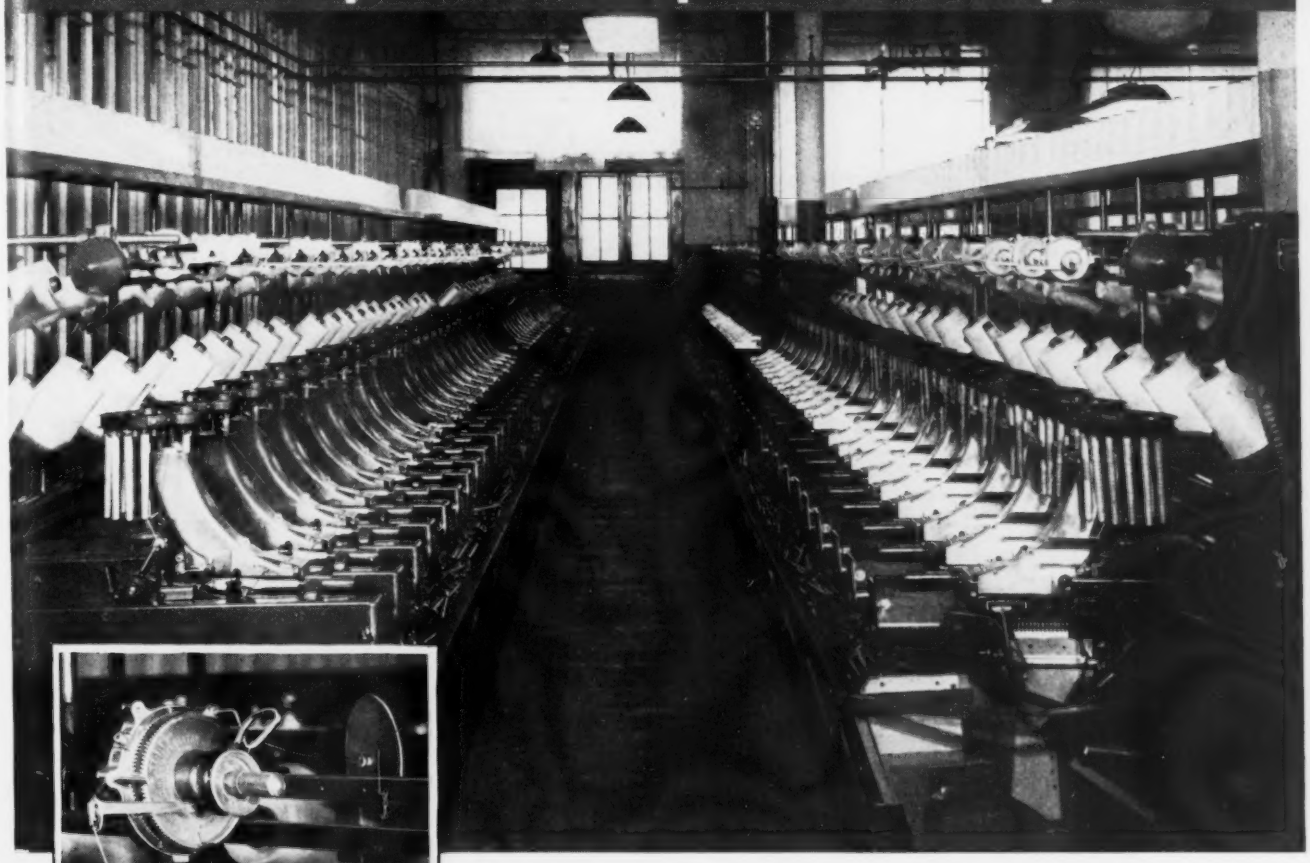
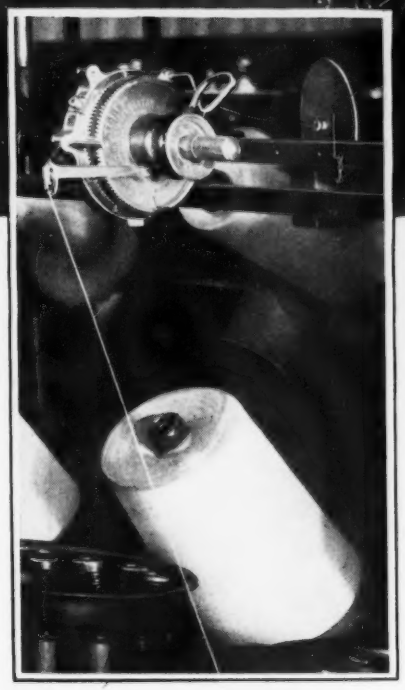
UNIFORM quills from Spindle after Spindle...





...with the *Kidde* Tension Compensator

Here's just *one* of the many large-scale installations in which the *Kidde* Tension Compensator is convincingly proving its value. Hundreds of spindles winding quills—and every quill with uniform tension!

The *Kidde* Tension Compensator is equally useful with a variety of yarns in such operations as warping, dye package winding, filling winding, plying—in fact, *wherever* extremely accurate tensioning is necessary.

When you use the *Kidde* Tension Compensator, you take the variables out of yarn tensioning. Just set this precision device to any desired tension, from 6 to 120 grams. Under suitable conditions tensions as low as 4 grams can be held. The Compensator *automatically* maintains the correct value—regardless of such variables as yarn speed, coefficient of friction, or input tension changes as high as half the tension setting.

Mail the coupon for description bulletin ➧

Kidde

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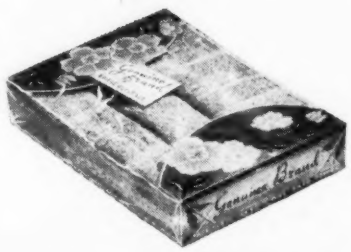
LET MR. CELLOPHANE SOLVE YOUR PACKAGING PROBLEMS

BEHIND MR. CELLOPHANE are years of packaging experience. This store of knowledge is at your disposal to help you make best use of the unique visual and protective advantages of Sylvania Cellophane. Talk over your problems with us. You'll find us most cooperative.



Wash cloth, bath and hand towels in U-board with extended flaps machine-wrapped in cellophane adds up to an inexpensive, sanitary package that means more sales.

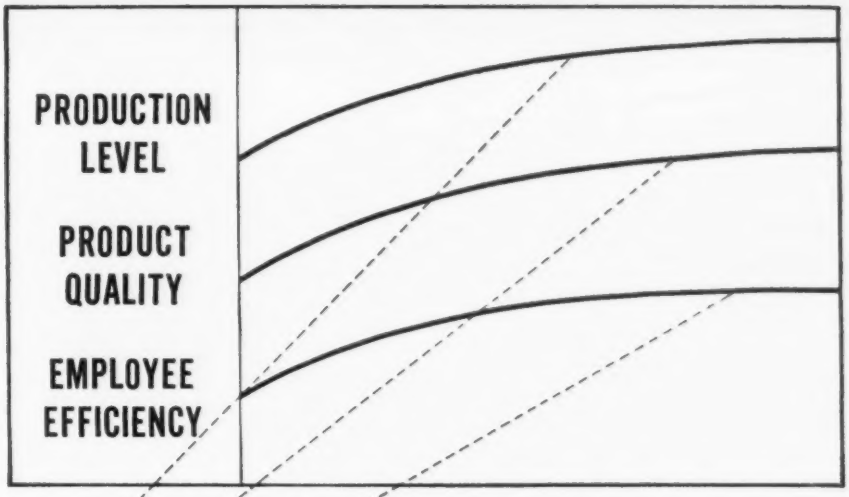
SYLVANIA CELLOPHANE

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 350 Fifth Avenue, New York 1, N.Y. *Plant:* Fredericksburg, Va.

SYLVANIA CELLOPHANE



THE INVISIBLE SECURITY OF AIR CONDITIONING GIVES YOU RESULTS YOU CAN SEE

Absolute temperature and humidity control in your plant will give you results you can *see—in high level production . . . uniform quality of products . . . and improved employee efficiency.*

Every year more and more mills are recognizing the downright economic necessity of air conditioning . . . are depending on York for installations which assure them year 'round operation at a minimum of expense and attention.

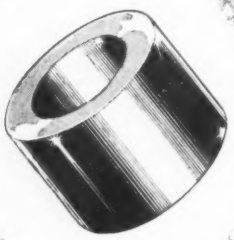
Regardless of the size of the mill or the special problems involved, there's a complete range of York equipment to meet every specification. Since 1885, York has been the foremost name in mechanical cooling, and York central station installations are in operation in many of the country's largest and most modern textile plants.

And, whatever your specific needs in air conditioning, there's a complete range of York equipment to meet them, and a York representative ready to talk textile installations. He is prepared to supply your plant engineer, consulting engineer and installing contractor with specific information as to equipment—it's capacities and performance to fit your special needs. His accumulated data on air conditioning in your particular field will be helpful. York Corporation, York, Pennsylvania.

YORK *Refrigeration and Air Conditioning*

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

WORKS WHERE OTHERS WON'T



accurately formed

GRAPHALLOY OILLESS BEARINGS

SPECIFY GRAPHALLOY TRADE MARK REG. U. S. PAT. OFF. WITH CONFIDENCE

SELF-LUBRICATING ○ EXTREMELY DURABLE ○ CONSTANT CO-EFFICIENT OF FRICTION ○ OPERATES DRY — OR *SUBMERGED IN WATER, GASOLINE OR CORROSIVE LIQUIDS* ○ APPLICABLE OVER A WIDE TEMPERATURE RANGE — *even where oil solidifies or carbonizes* ○ EXCELLENT AS A CURRENT-CARRYING BEARING.

GRAPHITE METALLIZING CORPORATION

1027 NEPPERHAN AVENUE, YONKERS 3, NEW YORK

cording to its requirements. The low-pressure steam (10 lb.) is extracted from the turbine through an automatic extraction valve. A make-up reducing valve from the high to the low pressure line takes care of requirements in excess of that supplied by the turbine.

The heating system for the building consists of unit heaters and extended surface radiation. Unit heaters have automatic temperature controls.

The additional electric load created by the new power requirements, lighting of the new building, and revamping of parts of the existing buildings made it necessary to remodel and add materially to the existing switchgear in the power plant. A modern metal-clad switchboard was installed in the finishing plant. The electric wiring was installed in conduit generally run exposed on the ceiling to avoid wet locations, to expedite construction and maintenance, and to be more flexible in respect to changes in layout. Feeders were run to load centers and control centers conveniently located to control groups of motors.

LIGHTING. Uniformly spaced fixtures provided a basic illumination of about 25 ft. candles of general lighting for manufacturing areas, this being supplemented by local lights where required. General lighting of lesser intensity was used for storage areas. The lighting wiring is all in conduit with control cabinets at convenient points.

A special multiple-tube fixture was used for the final inspection perches.

Most of the machinery is new. Automatic controls of temperature, speed, and other elements were used liberally throughout to remove guesswork and undependable human judgment. Some features which make for economy, uniformity, and quality of product are:

Soap is made up in large tanks, pumped into storage tanks to cool and from the latter pumped to the fulling mills and soaping machines through measuring meters.

The fulling is done in mills of large capacity equipped with ample individual motor drives.

The dry-cleaning machine is located on the second floor and delivers the finished product to the first floor ready for subsequent operations.

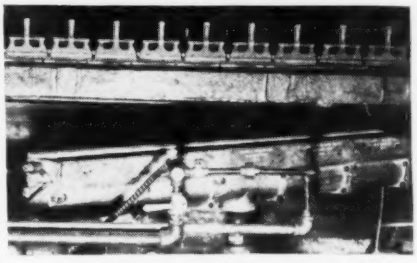
Cloth washing is done in a high-speed continuous washer supplemented by a few individual washers.

The carbonizer is a continuous range performing all operations from the acid soaking through the neutralizing.

The cloth dryer is a high-speed modern tenter in which temperatures and speed are carefully controlled.

The cloth is sheared by multiple-

THE INFRED GAS OR ELECTRIC **RADIANT HEAT**



Section of Tenter Frame Dryer

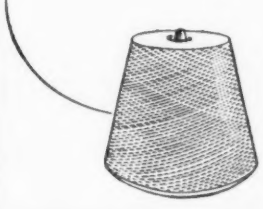
- **TENTER FRAMES**
- **SINGERS**
- **SLASHERS**
- **DRY BOXES**
- **STEAM CANS**
- **CURING BOXES**

Infra-Red speeds up production! Let us show you how these systems SAVE TIME AND MONEY.

PROCESS HEATING, INC.
Industrial Heating Engineers
346 Warren Street, Brooklyn 2, N. Y.

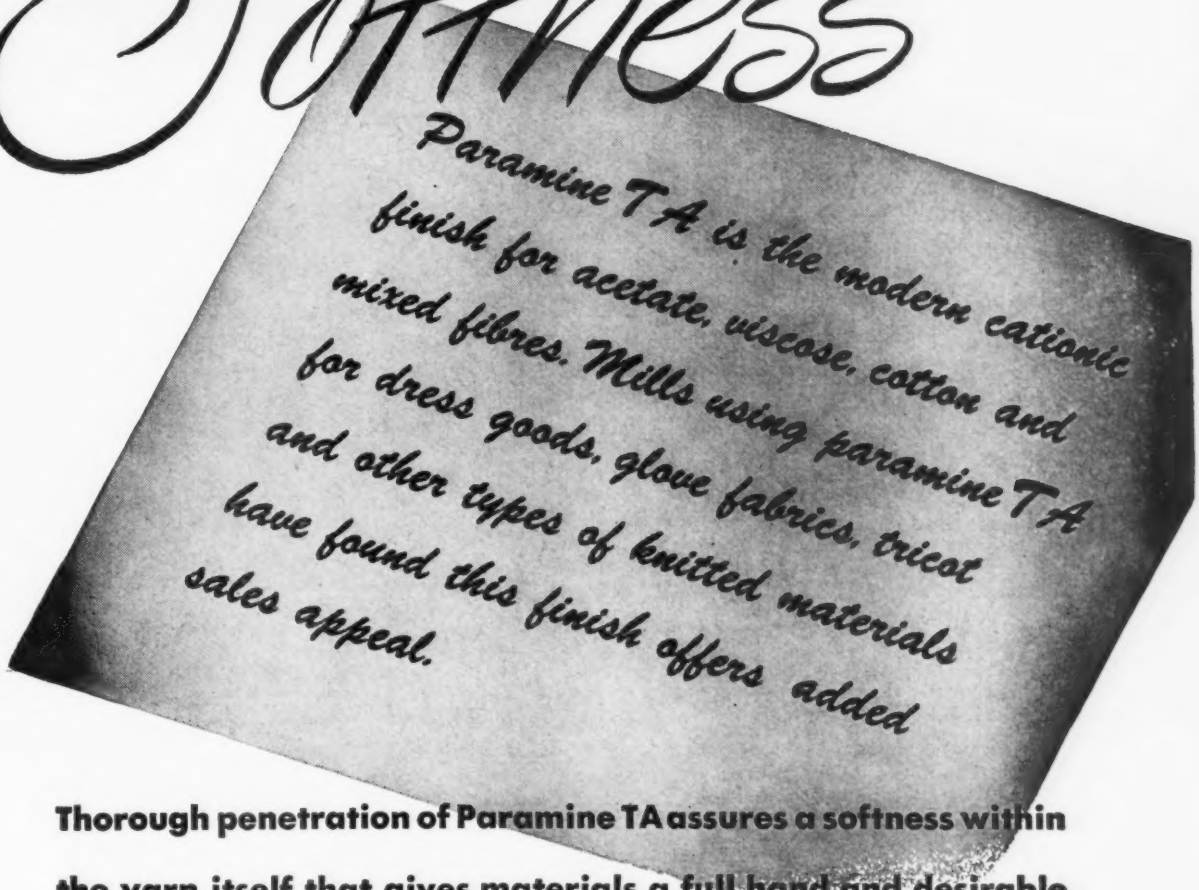
Fallspun
QUALITY YARNS
FALLS YARN MILLS
Woonsocket, R. I.

SYMBOL OF QUALITY COAST-TO-COAST



IF YOU WANT

DURABLE Softness


Paramine TA is the modern cationic
finish for acetate, viscose, cotton and
mixed fibres. Mills using paramine TA
for dress goods, glove fabrics, tricot
and other types of knitted materials
have found this finish offers added
sales appeal.

Thorough penetration of Paramine TA assures a softness within the yarn itself that gives materials a full hand and desirable drape — its substantive action produces a durable, lasting finish — Application is simple.

Use Paramine TA*

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WRITE FOR DETAILS OR DEMONSTRATION

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

Go Lead for Acid Equipment

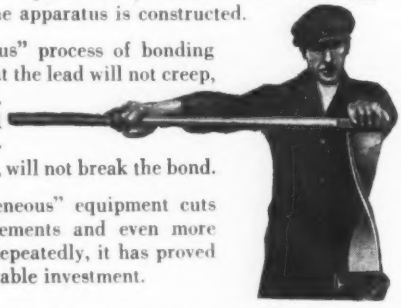
Whenever acid corrosion is further complicated by extreme conditions of pressure, temperature or other physical problems . . . go for equipment that can handle these extra jobs. Go for National Lead's "Homogeneous" Lead-lined or Lead-covered Equipment.

You get all of lead's many advantages, plus National Lead's permanent "Homogeneous" bonding.

Here are three reasons why "Homogeneous" equipment makes acid-handling less of a problem.

1 A Bond that's Permanent! National Lead's "Homogeneous" Lead-lined Equipment gives you an inseparable bond. The lead lining (or covering) is permanently bonded to the steel, copper or brass of which the apparatus is constructed.

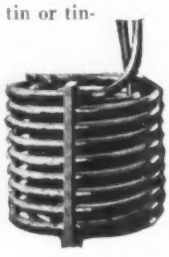
The "Homogeneous" process of bonding is your assurance that the lead will not creep, buckle, or separate. Shock, vibration, full vacuum, high temperature or pressure, will not break the bond.



Rugged "Homogeneous" equipment cuts down costly replacements and even more costly shutdowns. Repeatedly, it has proved itself a sound, profitable investment.

Bonded for Life. *If you clamp a strip of our "Homogeneous" lead-bonded steel in a vise, you can twist it until the steel fractures. But there'll be no parting of the two metals. The bond is inseparable!*

2 Endurance at High Temperatures! There's no tin or tin-lead solder used in the bonding of "Homogeneous" equipment. You can use this equipment safely at temperatures closely approaching the melting point of lead itself (621°F.).



Heating or Cooling? *"Homogeneous" lead-covered copper coils do both jobs well, throughout industry.*

Endurance at high temperatures isn't the whole story either! The "Homogeneous" bond holds fast *even when subjected to rapid changes in temperature.*

Most of the "Homogeneous" processing equipment produced by National Lead is designed for service at elevated temperatures. This includes not only lead-lined tanks, autoclaves and the like, but also lead-covered agitators, propellers and mixing devices of many types.

3 Designed to Order! As acid-handling problems differ, equipment must be designed for each given set of conditions. Every piece of National Lead's "Homogeneous" Lead-lined or Lead-covered Equipment is individually fabricated to your specifications.

This results in efficient, cost-cutting apparatus.

Our Engineering Department offers full cooperation in your fight against acid corrosion. We will gladly offer suggestions on the most economical and satisfactory way for you to use the protection of lead.

You can get "Homogeneous" lead-lined or lead-covered protection for . . .

Acid Car & Trailer Tanks
Acid Columns • Agitators
Autoclaves • Digestors
Heat Exchangers
Vacuum Tanks • Propellers
Heating & Cooling Coils

Go National for Lead

. . . pipe . . . valves . . . sheet . . . lead-lined or lead-covered equipment . . . even complete acid recovery plants. Behind every National Lead recommendation, every National Lead product, are years of experience and many important installations in every field handling corrosive liquids and gases.

Fire Resistant...

yet finish and "hand" unchanged

Du Pont FIRE RETARDANTS

NO STIFFENING: Now, you can give your fabrics effective fire resistance, and still not alter their original "hand," with Du Pont Fire Retardants.

NO "BLOOMING": Du Pont Fire Retardants do not effloresce to the surface, or in any way affect the finish of treated fabrics . . . even after aging under adverse conditions.

NO BLAZING OR AFTERGLOW can result in fabrics treated with Du Pont Fire Retardants. They are only charred by contact with flame.

EASY TO APPLY: A simple immersion or spray treatment gives uniform application on most materials—including cotton, viscose rayon, wool and many others.

Additional Advantages

NOT REMOVED by dry cleaning solvents under most conditions.

LOW-COST: Du Pont Fire Retardants are inexpensive . . . yet give added sales value to your finished materials.

For further information on how Du Pont Fire Retardants can help you make better fire-resistant fabrics, write the Du Pont Company, Grasselli Chemicals Dept., Wilmington 98, Del.

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...*THROUGH CHEMISTRY*

E. I. DU PONT DE NEMOURS & CO. (INC.), GRASSELLI CHEMICALS DEPARTMENT
Wilmington 98, Delaware

Reelfoot
HIGH QUALITY YARNS

Speeder and ring spun, all sizes 14's and coarser, single and plied. Cotton and spun rayon. Natural or Dyed.

CUSTOM MADE—
CUSTOM PUT-UP
TO YOUR
PARTICULAR
SPECIFICATIONS

Our flexible methods of operation assure your requirements. Tell us your needs and we will meet them promptly.

"SPECIALISTS IN ENGINEERED SERVICE"
HYDE PARK MILLS INC
Covington, Tenn.

blade Davidson shears supplemented by some double-bladed shears.

Piece dyeing is done in stainless-steel kettles equipped with temperature controls.

The machinery as a whole is balanced as well as possible for a predetermined number of pieces with sufficient leeway to allow for the variations which normally occur in a woolen plant.

Chas. T. Main, Inc., 80 Federal Street, Boston, Mass., was the engineer.

Ludlow Mfg. & Sales Co.

(*Continued from page 115*)

With the building of the new steam plant and establishment of centralized unit substation facilities at the mills, the power supply was better co-ordinated. A new turbo-generating unit was purchased and installed. This is a 2,500-kw., 11.5-kv. machine, 60 cycles. Metal-clad switchgear in the new steam plant is connected with an 11.5-kv. main bus which is sectionalized into two parts by a circuit breaker for more flexible operation. Two 11.5-kv. incoming cables from the Ludlow hydro plant terminate at this bus, as do two incoming 11.5-kv. circuits from the Red Bridge hydro. The latter plant is about 4 miles upstream and is connected with the mill property by two pole lines until it reaches a point about 1,000 ft. east of the new steam plant. Here it terminates on a steel A-frame structure with suitable lightning arresters and disconnecting switches, whence two underground cables run to the main bus in the metal-clad switchgear housing in the steam plant. The connections are made so that one cable from each hydro station terminates at one section of the main bus, and the other cable from each hydro at the other main bus section. This enables the hydro to supply power to both sections of the main bus or to one section alone.

As the frequency changer is no longer needed it has been removed from the substation serving a major mill building. At present the final stages of the changeover to 60 cycles require the use of one hydro generator of the 40-cycle design, and suitable connections of a temporary kind to the remaining 40-cycle motor groups. Ultimately all generators will deliver 60 cycles to the mill system and are being rewound for that purpose.

The interconnection with the Western Massachusetts Electric Co. is now being provided through a 3,000-kva. transformer in the substation yard just outside one of the major mills. This receives 11.5-kv. energy from the generating units in the Ludlow stations

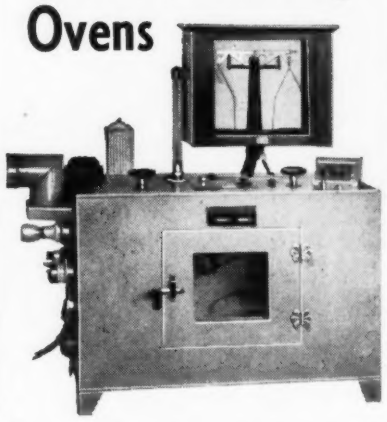
Fast & Effective

- Kills many putrefactive bacteria which cause disgusting odors.
- Replaces disagreeable smells with fresh, pleasant tang of eucalyptus.
- Use F & E in and around toilets, urinals; for flushing garbage receptacles, commodes; for washing down dressing room benches . . . deodorizing is imperative.

Write for folder FE-745 today.

F & E SOLUTION
The C. B. DOLGE CO.
WESTPORT, CONNECTICUT

Textile Testing Ovens



For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼", both 6" deep. Occupies table space 20" x 40".

EMERSON Ovens
Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work.
Write for details on EMERSON OVENS to fit your process.

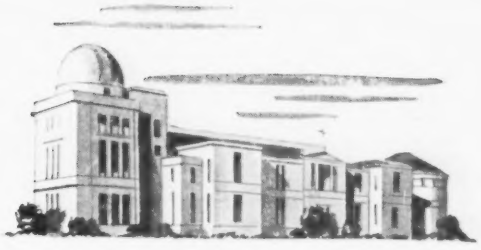
◆

EMERSON APPARATUS CO.
177 Tremont St., Melrose 76, Mass.

FOR

DEPENDABLE TIME

... the Naval Observatory at Washington is the *accepted standard* of the nation.



FOR

DEPENDABLE LUBRICITY

... NOPCO 1111 is the *accepted standard* of the Rayon Industry.

NOPCO* 1111

CREPE SOAKING OIL AND WARP SIZE SOFTENER

Here are some reasons why NOPCO 1111 is preferred by Rayon Throwsters and Weavers in America, Canada and other countries . . .

Unsurpassed softness and lubricity . . . controlled pebble . . . ease of removal during boil-off . . . no volatilization in drying . . . no oxidation or rancidity.

For full information write for "Important Points Regarding Rayon Warp Sizing," "NOPCO 1111—Soaking Oil for Rayon Crepe Yarns."

NOPCO CHEMICAL COMPANY, Harrison, N.J.

Formerly National Oil Products Company

Branches: Boston • Chicago • Cedartown, Ga. • Richmond, Calif.

EVOLVED THROUGH RESEARCH

NOPCO TRADEMARK

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ALL THE LEADING FABRICATORS USE ALLEGHENY METAL

. . . every type of equipment you may need is available in this lustrous, lifetime-lasting stainless steel. Full information, prices, etc. are yours for the asking—either from the fabricator, or write us direct.

ADDRESS DEPT. T-69

Allegheny Metal is the only stainless steel that is produced in *every* form or shape in which steel can be used.

That's advantageous to both the fabricator and user of stainless equipment. It means undivided responsibility, a single source of supply and of technical assistance, and the same dependably uniform quality from one end of the list to the other. Fabricating conditions are known and constant, with the result that cost figures are lower and the performance of finished equipment is better.

Best of all, you can *get* Allegheny Metal and you can get it *now*, in mill or warehouse shipments. Let us work with you—whatever your need or problem.

ALLEGHENY LUDLUM STEEL CORPORATION
Pittsburgh, Pa.

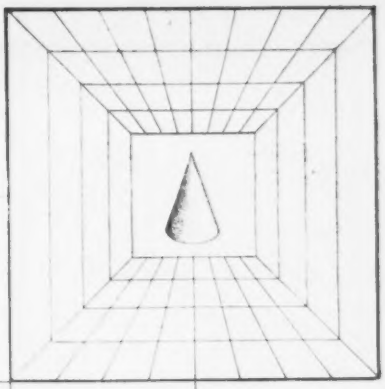
Nation's Leading Producer of Stainless Steels in All Forms

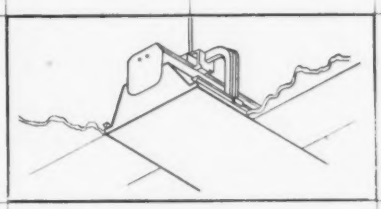
AL

W&D 1554

ALLEGHENY METAL is stocked by all Joseph T. Ryerson & Son, Inc. warehouses

Light, installed in the ceiling pattern desired ...CEILINGS UNLIMITED*





Miller Ceiling Furring Hanger (patented) simplifies installation. Continuous wireway cuts wiring and fitting costs. Units are Bonderized, rust-resistant. Accessible parts make for easy service.

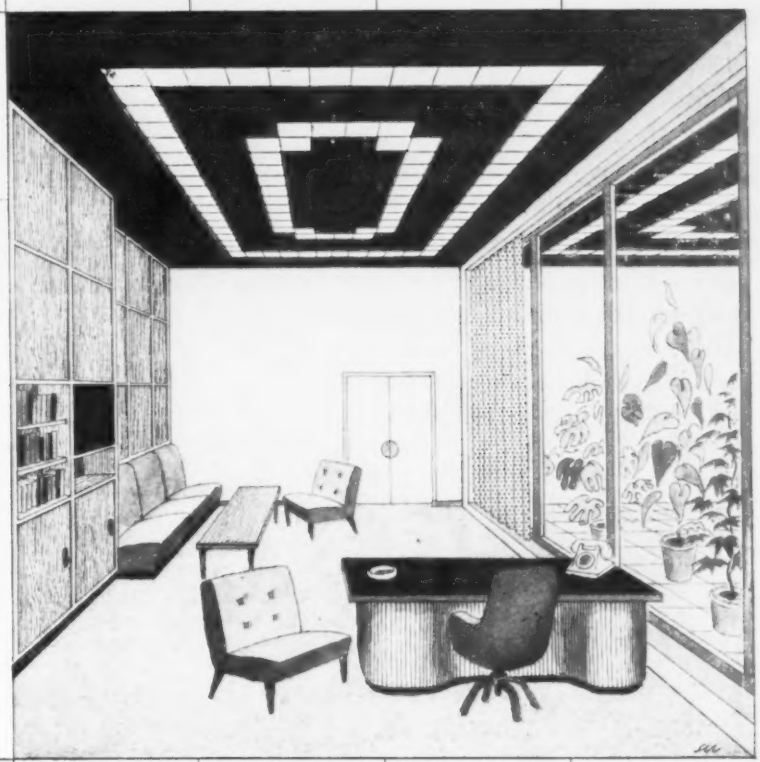
One system... the Miller Fluorescent Troffer Lighting System... provides light, PLUS a boundless opportunity to use the light units as building blocks... in new construction or relighting... to create architecturally harmonious ceiling patterns... CEILINGS UNLIMITED.

Miller Lighting Service is all-inclusive. It covers the needs of Planned Commercial and Industrial Lighting.

Miller 50 and 100 Foot Candlers (Continuous Wireway Fluorescent Lighting Systems) are standard for general factory lighting. Miller incandescent and mercury vapor reflector equipment has broad factory and commercial application.

Miller field engineers and distributors, conveniently located, are at your call.

® Reg. Trademark, U.S. Pat. Off.



Executive office — Architect: Susanne Wasson-Tucker, New York

THE miller COMPANY
SINCE 1944
ILLUMINATING DIVISION, MERIDEN, CONNECTICUT

ILLUMINATING DIVISION: Fluorescent, Incandescent, Mercury Lighting Equipment; HEATING PRODUCTS DIVISION: Domestic Oil Burners and Liquid Fuel Devices; ROLLING MILL DIVISION: Phosphor Bronze and Brass in Sheets, Strips and Rolls

6

REVOLUTIONARY
SKEIN TWISTER
and
SEMI-AUTOMATIC
BUNDLING MACHINE

Illustrated is the Kiwi Skein Twister

These two machines—the Kiwi Skein Twister and Semi-Automatic Bundling Machine — will increase yarn handling poundage 5 to 10 times and save 20 to 30 per cent in labor in an average eight-hour shift.

This equipment and yarn handling process is adaptable to every requirement and every type of yarn. Big money and labor saving advantages are possible. Fill in coupon below for full information.

KiWi
Industries, Inc.
Textile Division
2636 N. HUTCHINSON ST.
PHILADELPHIA 33, PA.

Gentlemen—Please send me full information on your:

____ Kiwi Skein Twister
____ Kiwi Bundling Machine

Name .....
Address .....
City & State .....

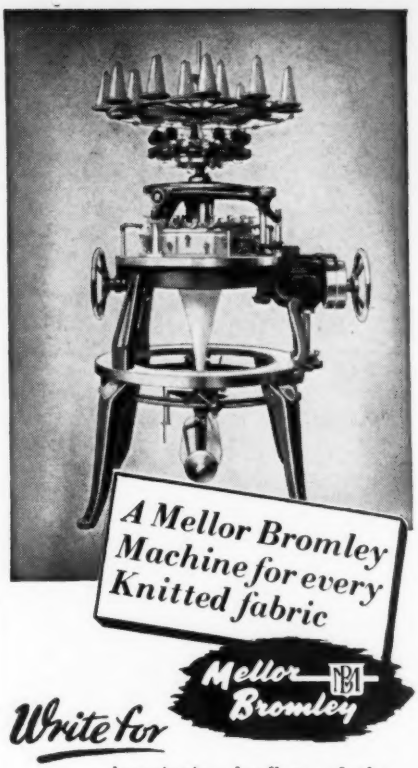
and raises it to 13.8 kv. for synchronization with the utility system. A circuit breaker with an interrupting capacity of 250,000 kva. at 15 kv. is provided in this tie.

From the 11.5-kv. main bus in the new steam plant, now the electrical control center of the Ludlow system, two 3-phase, 300,000 cir. mil underground cables are run to No. 0 and No. 000 cables reaching the modern substations serving the mill loads. One substation is provided with a 2,000-kva., 3-phase transformer stepping down the voltage to a 600-v. bus from which feeders run to the adjacent mill buildings. This transformer may be fed at 11.5 kv. by either or both these cables.

Another mill substation is a duplex unit, with bus tie breaker between each station. This reduces the capacity required in feeder breakers in case of a short circuit. Seventeen feeders are supplied from this substation and 15 from the other new substation. There are about 8,000 hp. in motors connected to the distribution system in the several mills. These generally range between ½ and 150 hp. At the transformer used with the Western Massachusetts tie, there is a tertiary winding from which a 600-v. connection is made through a circuit breaker with the 600-v. substation bus in the metal-clad switchgear housing from which the adjacent mill service is obtained. This would reduce the amount of motor-driven machinery which might have to be cut out of service in case of local trouble. If the bus-tie breaker in this substation is closed, the tertiary connection would then serve both sections of the substation bus in parallel. Air-type breakers were provided for the metal-clad gear.

New ballasts were required in changing over portions of the plant fluorescent lighting units to 60 cycles.

The new steam plant is designed with wide spacing between equipment and for economical supervision. There are two boilers, each with a capacity of 40,000 lb. of steam per hour at 700° F. and 600 psi. Each has two coal pulverizers. On the main operating floor level are the turbo generator, high-voltage switchgear, station service switchgear, boiler feed pumps, electric boiler (capacity 10,000 lb. per hr.), dust collectors, equipment for equalizing flue-gas characteristics, and on the floor below, four filters to clarify the river water used for condensing and all purposes except washing and drinking. A tunnel carries piping and cable from the steam plant to the mill buildings. Fuel oil burners are provided for starting operations. Before the steam enters the mill buildings, it is desuperheated, and reducing valves are provided for process work and mill



Write for descriptive leaflets of the Mellor Bromley Interlock and many other top line machines

MELLOR BROMLEY AND CO. LTD.
LEICESTER, ENGLAND

QUALITY **RICHMOND** PRODUCTS

CUT DOWN THROWOUTS USE *NYLOIL 360*

For knitting 10 and 15 denier mono-filament unsized nylon yarn.

Will scour out in any regular bath.

A special ANTI-STATIC designed to give greater stiffness to the stocking, and to prevent snags, pull threads and snarling.

We Can Furnish the Nylon Oil Jars If You Need Them.

Write for Samples and Complete Information

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE.
PHILADELPHIA 25, PA.

PROXOL-the New Wool Oil

is ready with ALL the answers!

Do you choose a wool oil on the basis of its lubricating properties alone? Of course not! For no matter how efficiently an oil performs, you've got to get rid of it when you scour. And here's where many wool oils fall down. They are too hard to scour out—cause plenty of grief in bleaching, dyeing and finishing.

Proxol, like a welcome guest, knows when to leave—and does so when it should. Proxol is easily removed in scouring—with 40% to 75% savings in normal soap and alkali usage. This important Proxol quality helps assure clean goods—important in subsequent dyeing and finishing operations.

Proxol is Procter & Gamble's efficient new wool oil. It's a self-emulsifiable oil which needs no help from added emulsifiers. Has a less-than-20°F pour point. A Proxol emulsion is extremely stable—it won't separate, regardless of storage period.

Procter & Gamble

Cincinnati, Ohio—Makers of Olate the universal low titer textile soap

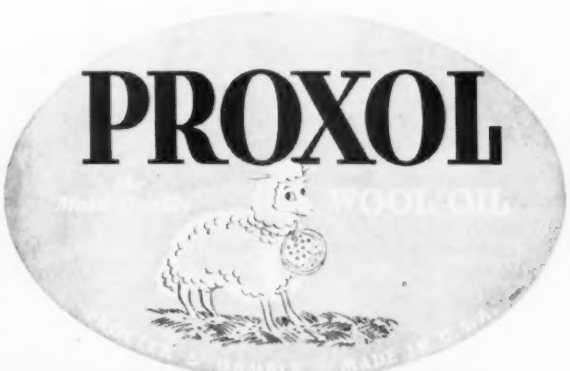
Better Carding-

You can't miss seeing the excellent results of Proxol in the carding operation. Card ropings are round, smooth and uniform because of its excellent lubricating properties. Stripping is reduced.

Better Spinning-

Good results are equally apparent in spinning. Yarns spun with Proxol are uniform in weight and unusually strong because Proxol provides the good lubrication and controlled cohesion so necessary for good yarn. Better moisture retention, a built in feature of Proxol, also helps improve carding and spinning. This is especially noticeable when operations are resumed after a week-end shut down. Fewer ends are down and piecing is minimized.

Proxol is proving itself a superior wool oil in a steadily increasing number of important woolen mills. It will pay *you* to standardize on Proxol.



One of a series *of messages to help you increase your understanding of business paper advertising, and its effect on your job.*

No matter what you make —you're not making it at a profit !

YOU MAY HAVE the finest product of its kind. Your production set-up may be a miracle of efficiency. Perhaps you've even discovered how to cut your cost-per-unit below that of your closest competition. The fact remains —

You're still not *making* anything at a profit. Because actually, of course, there is no such thing.

Goods can only be *sold* at a profit. And selling them profitably requires the same kind of mechanization that keeps your production costs down.

In the *manufacture of a sale*, for example, there are five basic operations —

1. **Seeking out prospects**
2. **Arousing their interest**
3. **Creating a preference for your product**
4. **Making a specific proposal**
5. **Closing the order**

Any good salesman can handle all five. But no salesman should *have* to — not when the first three can be mechanized so economically through the use of advertising.

For good advertising, like the machine on your production line, is a multiplier of individual effort, enabling all of us to produce (and *earn*) far more than we could alone.

And when it goes to work in *business papers* — with their tremendous concentration of hand-picked prospects — advertising becomes the most efficient machine available for manufacturing sales at a profit!

TEXTILE WORLD

is a member of The Associated Business Papers, who have published an interesting folder entitled, "10 ways to measure advertising effectiveness." We'll be glad to send you a copy. And if you'd like reprints of this advertisement (or the entire series) to pass along to others in your organization, just say the word.

HOW MUCH MONEY CAN NEW DU PONT "LUDOX"

☐ save you? ☐ earn you?

Already . . . many textile men are using this new Du Pont chemical to improve fabrics . . . speed production

Whether you are processing natural or synthetic fibers or fabrics, chances are that the new Du Pont "Ludox" Colloidal Silica can help you produce better goods, expand sales with new products or increase production.

Offers new economies and applications

"Ludox" now comes to you as an aqueous 30% colloidal solution of almost pure silica particles, each having a size less than 1/1,000,000 of an inch. It is chemically reactive, highly fluid and substantially free of alkali. This new high concentration gives "Ludox" a much broader range of usefulness—with maximum economy.

Checks fiber slippage

Textile men have already reported excellent results in treating both fibers and fabrics with "Ludox." It has been found, for example, that "Ludox" checks yarn and fiber slippage by increasing fiber-to-fiber friction, and that the increased friction also strengthens the yarn and permits lower twist. This helps increase production, as well.

Many other uses

Others are using "Ludox" to improve sizes and coatings for added bond and film strength, increased friction and water resistance, and less dry tackiness. "Ludox" also has a mild delustering effect on rayons. It has a minimum stiffening effect on the fabric and is not dissolved by dry cleaning solvents. Users are finding *new* ways of applying "Ludox" to their advantage.

Do you have a slippage problem? "Ludox"-treated fabrics, like this rayon, show outstanding resistance to yarn and fiber slippage.

How can "Ludox" help you? A Du Pont Technical Service man will be glad to visit your plant and study your problems.

●

Get these helpful facts

Clip the coupon below for your copy of our Technical Bulletin on "Ludox."

DU PONT
REG. U.S. PAT. OFF.
LUDOX®
Colloidal Silica
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Dept., Wilmington 98, Del.

Please send me Technical Bulletin on "Ludox."

Name_____ Title_____

Company_____

Address_____

City _____ State_____

You Can Count on WAK*

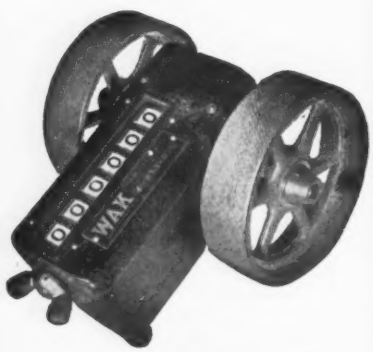
COUNTERS

- RUGGED
- ACCURATE
- DEPENDABLE

WE BUILD...

RESET AND NON-RESET

- ★ Single Pick Counters
- ★ Double Pick Counters
- ★ Triple Pick Counters
- ★ Rachet Counters
- ★ Rotary Counters
- ★ Slasher Counters
- ★ Tenter Counters
- ★ Twister Counters
- ★ Inspection Table Counters
- ★ Sewing Machine Counters
- ★ Yardage Counters
- ★ Folding Machine Counters
- ★ Hank Clocks
- ★ Special Counters



*T. M. REG. U. S. PAT. OFFICE

WAK INDUSTRIES CHARLOTTE, N. C.

heating. The turbine is of the condensing type, with stage bleeding design for steam supply at 100 psi. Outside the plant is a coal yard with dragline, hopper, and conveying facilities working with the bunker storage. Ash handling is by pneumatic conveyor and tile silo, with washing facilities including mixture with acid to prevent fly ash. Both truck and rail discharge of ash are provided.

Mill Maintenance

You Can Save Money By Taking Care of Gears

Gears cost money, as every mill superintendent who has made recent replacements well knows. Any step that can be taken to insure longer gear life means a reduction in mill-overhead cost. While much depends on metal structure and design of the gear, most gear damage comes from factors that can be avoided.

Here are a number of suggestions that can be applied in any textile mill to increase gear life:

1. Avoid abuse. Overloads on machinery units always abuse the gears that drive or control that equipment. An overload never pays.

2. Temperature should be kept down. Gears operated at high temperatures caused by speed or nearness to heat will fail early.

3. Use a gear lubricant that is heavy enough to keep down friction. If the oil is too light, an insufficient amount will be carried from gear to gear.

4. Keep shafts properly aligned. Misalignment will cause excessive wear on one side of the gear tooth and eventual breakage.

5. Avoid shock loading of gears. Pitting and scoring will result from rough loading.

6. Keep gears free of dirt and heavy dust. Five minutes spent in checking and cleaning gears may save the gears.

7. Do not over-lubricate or under-lubricate power-transmission gears. One condition may cause as much trouble as the other.

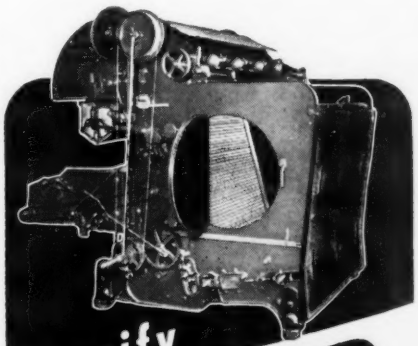
8. Protect gear lubricants against contamination in service and in storage. *(M-6)*

Wayne Traverse Wheels for use on your Universal No. 90 winders, made of *oil hardened tool steel* cannot be beat for service and quality in their respective fields.

Our hardened steel wheels will last indefinitely, and because of their hardness will not cut or become nicked and therefore damage your silk. These wheels are accurately made. The size is correct and the finish of the face of the wheel is as smooth as polishing can make it.

Ask for sample and prices.

WAYNE MFG. CO.
HONESDALE, PA.



Specify HARWOOD APRONS for BRAMWELL® FEEDERS

Geo. S. HARWOOD & Son

Specialists in Textile Feeding Machinery Since 1863

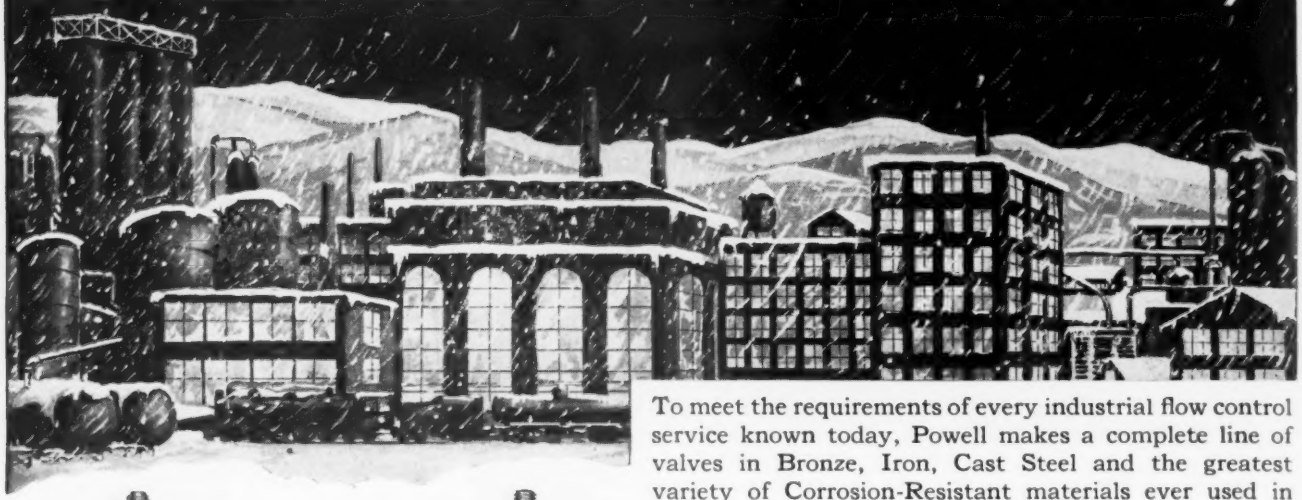
50 LAGRANGE STREET
WORCESTER 8, MASS.

Many cotton mills have found it profitable to consult Corn Products textile laboratory at Greenville, South Carolina. The services of our technicians are offered textile manufacturers without obligation.

CORN PRODUCTS SALES COMPANY

Greenville, S. C. • *Atlanta, Ga.* • *Greensboro, N. C.*

POWELL VALVES cover all Industry



To meet the requirements of every industrial flow control service known today, Powell makes a complete line of valves in Bronze, Iron, Cast Steel and the greatest variety of Corrosion-Resistant materials ever used in making valves.

We cannot introduce "Powell Valves for Corrosion Resistance" as a *new* feature, because with us they are long past the introductory stage. In fact it was more than 25 years ago that the Powell Special Design and Alloy Valve Division was established.

But we *can* feature the fact that today Powell makes the only *complete line* of Corrosion-Resistant Valves available to the Chemical and Process Industries.

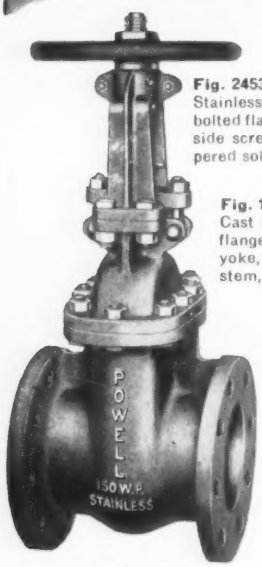


Fig. 2453-G—Large 150-pound Stainless Steel Gate Valve with bolted flanged yoke bonnet, outside screw rising stem and tapered solid wedge.

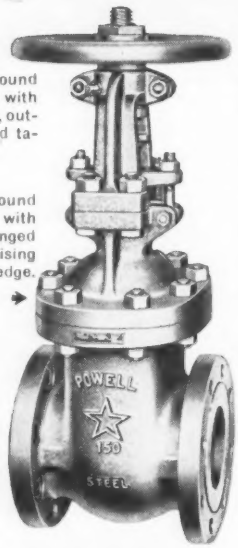


Fig. 1503—Class 150-pound Cast Steel Gate Valve with flanged ends, bolted flanged yoke, outside screw rising stem, tapered solid wedge.

Fig. 1843 — 200-pound Monel Metal Swing Check Valve with screwed ends, screwed-in cap.

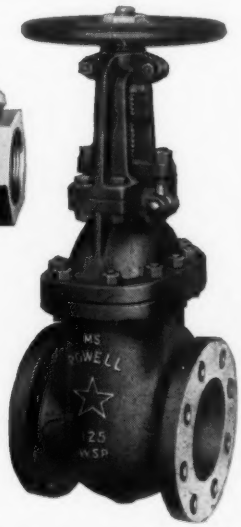


Fig. 1793—Large 125-pound Iron Body Bronze Mounted Gate Valve with outside screw rising stem, bolted flanged yoke and tapered solid wedge. Also available in All Iron for process lines.

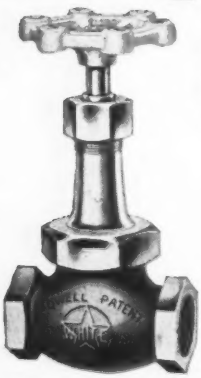


Fig. 1708—200-pound Bronze Globe Valve with screwed ends, union bonnet, renewable, specially heat treated stainless steel seat and regrindable, renewable, wear-resisting "Powellium" nickel-bronze disc.

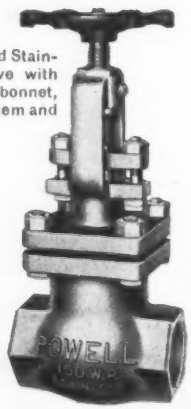


Fig. 1968—150-pound Stainless Steel Gate Valve with bolted flanged yoke-bonnet, outside screw rising stem and tapered solid wedge.

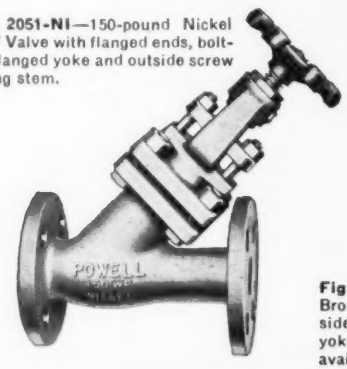


Fig. 2051-NI—150-pound Nickel "Y" Valve with flanged ends, bolted flanged yoke and outside screw rising stem.

The Wm. Powell Co., Cincinnati 22
DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

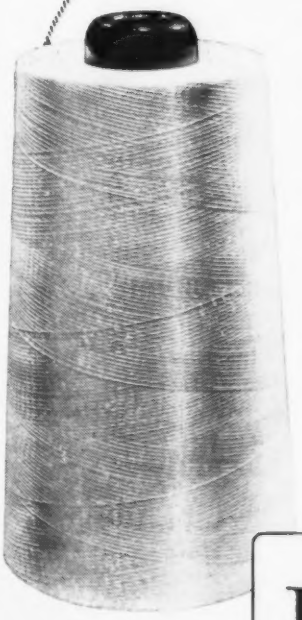
For full information on applications of Powell Corrosion-Resistant Valves, refer to Powell Catalog No. 242. If you do not have it, write, on company stationery, for your copy NOW!

POWELL VALVES

FIBERGLAS* YARNS

provide Textile Designers and Manufacturers with a unique combination of advantages not present in any other yarn!

- HIGH TENSILE STRENGTH
- DIMENSIONAL STABILITY
- NONCOMBUSTIBILITY
- RESISTANCE TO OILS AND ACIDS
- RESISTANCE TO MILDEW AND ROT
- EXCELLENT ELECTRICAL PROPERTIES



Designing a fabric that requires dimensional stability as well as high tensile strength? Weaving a fabric that must resist oils and acids—that won't support combustion? If you are, it will pay you to investigate Fiberglas Yarns because, basically, they possess all of these characteristics . . . making them a natural to help you solve your problems. Yes, with Fiberglas Yarns you can design and produce a fabric that combines dimensional stability with high tensile strength. Further than that, this fabric will also offer resistance to oils and most acids, mildew and rot . . . and won't support combustion.

These yarns also can be woven in combination with other fibers such as cotton, rayon, asbestos, etc. They provide the opportunity for designers, weavers, manufacturers and retailers to produce and promote new and unusual fabrics.

Information on types and sizes of Fiberglas Yarns and other technical information is available from the Fiberglas Textile Div., 16 East 56 St., New York 22, N.Y.

TO WORK WITH YOU: A fully equipped Customer Service and Processing Laboratory is located at our Fiberglas plant in Ashton, Rhode Island. In co-operation with weaving mills and cloth processors, work will be carried on in this laboratory to help you develop suitable applications for glass yarns and fabrics. Process development activities and weaving experiments are also conducted at this plant.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario

OWENS-CORNING
FIBERGLAS
Yarns

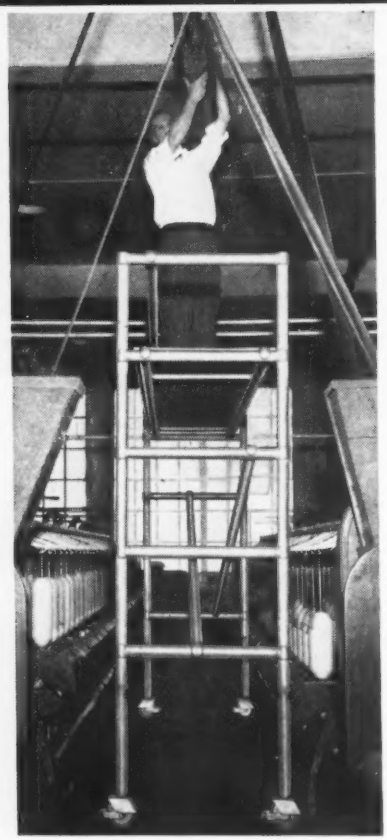
*Fiberglas is the trade mark (Reg. U. S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.

Speed up overhead maintenance with

Aluminum Alloy

"UP-RIGHT" SCAFFOLDS

Mobile 10' span set up by one man in one minute



Cut maintenance costs on lighting fixtures, walls, ceilings, overhead machinery and piping, ventilating and heating installations. Instantly adjustable to desired working level. Bridges obstacles up to 6½ feet in height. Stronger than structural steel yet one-third the weight. No wrenches, wing nuts, bolts, loose parts.

Write for Descriptive Circular

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Offices in All Principal Cities

Books of Interest

Organization, Management Of a Research Department

RESEARCH IN INDUSTRY, edited by C. C. Furnas; D. Van Nostrand Co., 250 Fourth Ave., New York, N. Y.; 574 pages, $6.50.

This volume, which will answer the questions of many executives whose companies may be embarking on a research program, has been edited by the director of Cornell Aeronautical Laboratory. The principal chapters are by different authorities, all active in some stage of research in representative industries. Beyond this, an editorial board, headed by Lynn A. Watt of Monsanto Chemical Co., did much of the planning, organization and over-all direction in the assembling of the work. The book as a whole should prove useful in planning a new, or checking an already operating, research division in any branch of the textile industry.

Actually three well known textile research men are among the 33 contributors. A. G. Ashcroft, director of research, Alexander Smith & Sons Carpet Co., wrote Chapter XII on the procurement and selection of research personnel. Warner Eustis, director of research, The Kendall Co., wrote Chapter XIV on personnel policies and personality problems. Charles S. Venable, director of chemical research American Viscose Co., wrote Chapter II on the research laboratory as an operating department of the company.

Other chapters cover such points as the research director's job, the research program, selecting projects for research, the research budget, research reports, salary policy, the tools of research, by-products of research, evaluating results of research relations with public, goals and problems of the future. In the appendix are sample patent agreements and employment contracts.

The editor of this work says, "The organization and management of industrial research constitute an art that can never be encompassed by a book of rules; but there are certain principles and experiences which have repeatedly proved to be applicable and valuable—a number of them are presented in this volume."

Handbook for Spinners of Cotton and Rayon Yarn

ENGINEERING AND TECHNICAL DATA PERTAINING TO MANUFACTURE OF COTTON AND RAYON YARN, Saco-Lowell Handbook, Vol. 4; Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.; 206 pages.

This newly issued handbook is the fourth of the series related to the machinery made by Saco-Lowell Shops. It includes tables and operating data which should prove useful to management and technicians in any yarn mill. For the most part, the material has been collected and prepared by the engineering and research staff of Saco-Lowell. Tables and other data not directly related to the machinery itself are presented under the following main heads: mathematical data, electrical and power data, belting, humidification, lubrication. The data on machines covering sizes, production, layout, etc. appear under the following heads: opening and picking, carding and combing, drawing, roving, spinning, and machine shipping weights. Machinery dimensions are given together with gear diagrams, machine speeds, production, draft calculations, machine settings, twist tables, arrangements of drafting elements for various systems, standard spindle sizes, and, in some cases, notes on installing and operating the machines. Two fold-in diagrams with related information cover the Saco-Lowell revolving flat card and the Saco-Lowell roller-top card, respectively. The diagrams indicate 44 points of inspection and 30 setting points for the revolving flat card, and 37 points of inspection and 24 setting points for the roller top card.

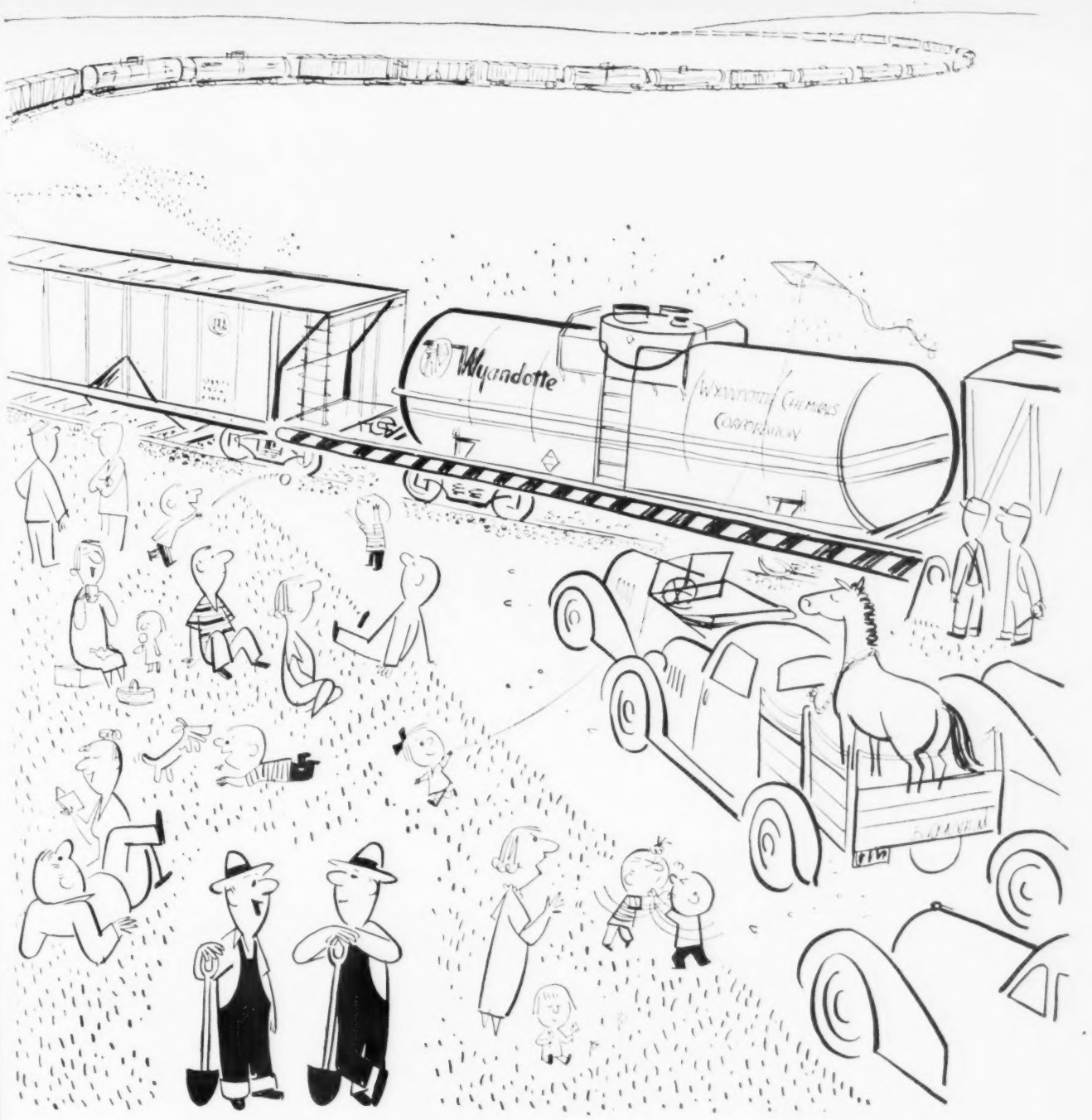
Other Books of Interest

OPERATING UNDER THE TAFT-HARTLEY ACT, by M. Malin and S. H. Unterberger; Labor Relations Information Bureau, Washington 1, D. C.; 60 pages.

TECHNICAL MANUAL AND YEARBOOK OF AATCC, 1947-1948; Howes Publishing Co., New York 464 pages.

TAFT-HARTLEY ACT AFTER ONE YEAR; Bureau of National Affairs, Inc., 1231 24th St., N.W., Washington, D. C.; 342 pages, $4.50.

INDUSTRIAL BERKS COUNTY, by Dr. A. D. Graeff; Textile Machine Works, Reading, Pa. (Title here given corrects error in review on page 328 of September, 1948, issue where county was erroneously spelled "Bucks."



"They've been waitin' here for seven hours"

You'll never have to wait this long for a moving train at a railroad crossing, but that's what *would* happen if the annual production of Wyandotte Chemicals Corporation were put into a single freight train. It would take more than 29,000 tank, box, dry ice and hopper cars to carry the million-and-a-quarter-ton load. Moving at 30 m.p.h., the 222-mile-long train would pass a given spot in about seven hours.

Wyandotte produces soda ash, caustic soda, chlorine and many other organic and inorganic chemicals to meet the requirements of industry. For economical and efficient unloading, each of these chemicals is shipped in the type of car required by the product and the consumer's product-handling equipment.

If your production plans call for any of the chemicals listed below, *why not ask Wyandotte?*

Wyandotte
REG. U. S. PAT. OFF.

WYANDOTTE CHEMICALS CORPORATION
WYANDOTTE, MICHIGAN • OFFICES IN PRINCIPAL CITIES

Soda Ash • Caustic Soda • Bicarbonate of Soda • Calcium Carbonate • Calcium Chloride • Chlorine • Hydrogen
Dry Ice • Glycols • Ethylene Dichloride • Propylene Dichloride • Chloroethers • Aromatic Sulfonic Acid Derivatives
Other Organic and Inorganic Chemicals

Fletcher EXTRACTORS

"JUNIOR"

FLETCHER "WHIRLWIND"

Large capacity, unusual self-balancing and all-around performance are outstanding features of the "Whirlwind"—the most modern type of extractor. Automatic hydraulic brake and "finger tip" control assure fast, smooth, safe stops. Available in three standard sizes and in a number of "extra high speed" models.

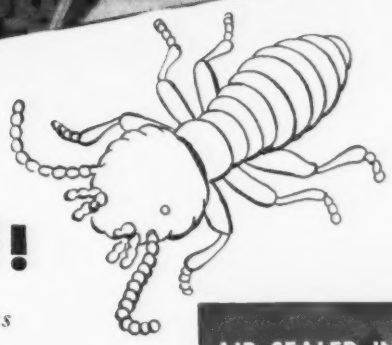
FLETCHER "JUNIOR"

The only 30" extractor built with "super self-balancing". Handles as much as 8 to 10 pounds out-of-balance. If your present 30" extractors are difficult to balance, investigate the FLETCHER "Junior".

Write for detailed information about these time-saving, production-increasing FLETCHER Extractors. Engineering consultation available without obligation.

FLETCHER WORKS

223 GLENWOOD AVE. PHILADELPHIA 40, PA. ESTABLISHED 1850



It's Verminproof!

That is one of the main reasons why PC Foamglas is the permanent insulation.

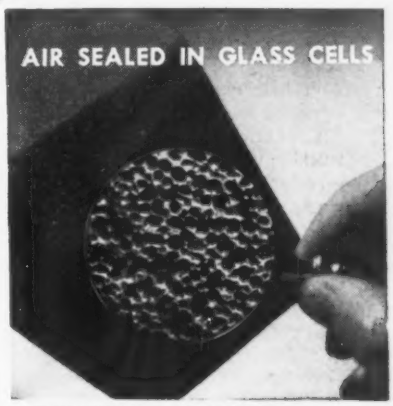
Termites, other destructive insects and vermin just can't eat Foamglas. They can't gnaw through it. They can't nest or breed in it. It's *verminproof.*

And thus, one of the common causes of insulating material failure is eliminated when you insulate your walls, floors and roofs with PC Foamglas.

PC Foamglas is a true *glass.* Consequently, Foamglas insulation is waterproof, vaporproof, fireproof, fumeproof, acidproof. These are additional reasons why, when installed according to our specifications for recommended applications, PC Foamglas retains its original insulating efficiency *permanently.*

So if you are looking for a permanent insulating material to help you maintain desired temperatures, reduce condensation, withstand humidity and form a vapor seal, find out about PC Foamglas.

Check and mail the coupon below . . . and we'll be glad to send you *free* the Foamglas booklets you select.



THE MAGNIFIED CROSS SECTION of PC Foamglas shows its cellular structure . . . glass bubbles solidified into big, strong, rigid blocks. In the millions of cells of glass-enclosed air, lies the secret of its insulating value.

When you insulate with Foamglas . . . You insulate for good.

Pittsburgh Corning Corporation also makes PC Glass Blocks

PITTSBURGH ® PC CORNING **FOAMGLAS INSULATION**

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS.

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Room 312-8, 632 Duquesne Way
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Please send me without obligation, your FREE booklets on the use of PC Foamglas Insulation for:

Roofs____ Walls_____ Floors_____

Name_____

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City_____ State_____

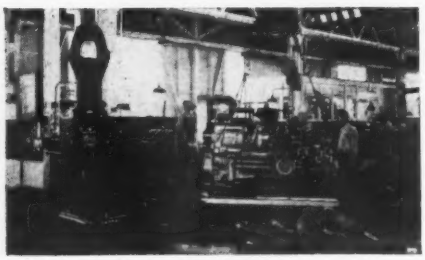
FLOORS

ruined by oils, grease, acids, water, chemicals, abrasive-wear...

Patch or Resurface

WITH

STONHARD STONPACH



Used in every industry for floors subject to serve conditions—STONHARD STONPACH is extremely tough, hard, and wear-resistant. Any handy man can patch or resurface your floors QUICKLY and SIMPLY. No delay in production schedules—STONHARD STONPACH is ready for the heaviest trucking within 24 hours! Speed traffic—reduce accidents—lower maintenance costs—use STONHARD STONPACH for your floors.

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Send for Free Folder

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1306 Spring Garden Street
Philadelphia 23, Pa.

Please send me a FREE "Stonpach Folder."

Firm.....

Mr.....Title.....

Address.....

City.....Zone...State.....

News of the month

TRI's Annual. The annual meeting of the Textile Research Institute will be held Nov. 18 and 19 at Waldorf-Astoria Hotel, New York. An instrumentation exhibit will be featured, including electronic testing and measuring devices and other modern research aids. On the morning of Nov. 18, three scientific papers will be presented. On the morning of Nov. 19, four papers of general interest are programmed, including: "What New Textiles Are Needed," by Theodore Felner, merchandise counsellor for Macy's; "Fabrics of the Future," by a staff member of Vogue; "Fibers in New Fabrics," by Pierre Sillan; "Basic Research Benefits Textiles," by Dr. Milton Harris. Maurice Holland, research counselor, will address the luncheon. On Nov. 20, there will be a visit by a limited group to the institute's laboratory at Princeton.

NACM Considers Outlook. The level of cotton goods prices is bound to remain high for some time to come, under current wage levels and government-supported cotton prices, Russell T. Fisher, president, declared at the annual convention of the National Association of Cotton Manufacturers in York Harbor, Me., Sept. 16. A panel discussion of textile problems in which recognized authorities in many branches of the industry participated featured the meeting. A. F. Hinrichs, consultant to the Economic Cooperation Administration, warned that the textile cost and price structure has changed disadvantageously in relation to the whole economy. The industry, he said, is not in as favorable a position pricewise as it was before the war since wage increases in cotton textiles have been larger than for any other manufacturing industry. Discussing the future of textile merchandising, Paul E. Jackson, editor, *Worth Street Forecast*, stated, "The desirability of speculating on cotton and of running to stock has come to an end. As far as foreseeable under our present tax structure, gambles of this kind offer no re-

Textile Calendar

Cotton-Textile Institute, annual meeting, Plaza Hotel, New York, Nov. 11, 1948.

AATCC, Philadelphia Section meeting, Kugler's, Philadelphia, Pa., Nov. 12, 1948; Jan. 28, 1949.

American Knit Glove Week (Association of Knitted Glove & Mitten Manufacturers), Nov. 15 to 20, 1948.

Carded Yarn Association, annual meeting, Hotel Charlotte, Charlotte, N. C., Nov. 17, 1948.

Textile Research Institute, annual meeting, Waldorf-Astoria, New York, Nov. 18 and 19, 1948.

American Fair Trade Council, annual meeting, Waldorf-Astoria Hotel, New York, Nov. 18, 1948.

AATCC, Northern New England Section meeting, Andover Country Club, Andover, Mass., Nov. 19, 1948.

AATCC, New York Section, meetings at Kohler's Swiss Chalet, Rochelle Park, N. J.—Nov. 19, 1948; April 1 and May 6, 1949; in New York—Jan. 14 and Feb. 25, 1949; Outing on June 17, 1949.

18th National Exposition of Power & Mechanical Engineering, Grand Central Palace, New York, N. Y., Nov. 29 to Dec. 4, 1948.

AATCC, Southeastern Section meeting, Atlanta, Ga., Dec. 4, 1948.

Third National Materials Handling Show, Convention Hall, Philadelphia, Jan. 10 to 14, 1949.

International Heating & Ventilating Exposition, 9th annual show, International Amphitheater, Chicago, Ill., Jan. 24 to 28, 1949, in conjunction with 55th annual meeting of American Society of Heating & Ventilating Engineers.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 27 to July 1, 1949. ASTM committee week and spring meeting, Chicago, Feb. 27 to Mar. 4, 1949.

Textile Wet Processing Equipment & Supplies Exposition, 71st Regiment Armory, New York, N. Y., Mar. 21 to 25, 1949.

American Cotton Manufacturers Association, annual meeting, Palm Beach, Fla., Mar. 31, Apr. 1 and 2, 1949.

American Gas Association, sales conference on industrial and commercial gas, Andrew Jackson Hotel, Nashville, Tenn., Apr. 5 to 7, 1949.

National Knitted Outerwear Association, annual meeting, Waldorf-Astoria Hotel, New York, Apr. 7, 1949.

Knitting Arts Exhibition, Atlantic City, N. J., April 25 to 29, 1949.

National Association of Hosiery Manufacturers; annual meeting, Hotel Claridge, Atlantic City, N. J., Apr. 25, 1949.

Annual Hosiery Industry Conference, Hotel Claridge, Atlantic City, N. J., Apr. 25 and 26, 1949.

Third Annual International Textile Industries' Exposition, Grand Central Palace, New York, N. Y., May 2 to 7, 1949.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

National Cotton Council, 11th annual meeting, Los Angeles, Calif., Mar. 7 to 9, 1949.

American Society for Testing Materials, first West Coast meeting, Fairmont Hotel, San Francisco, Calif., Oct. 10 to 14, 1949.

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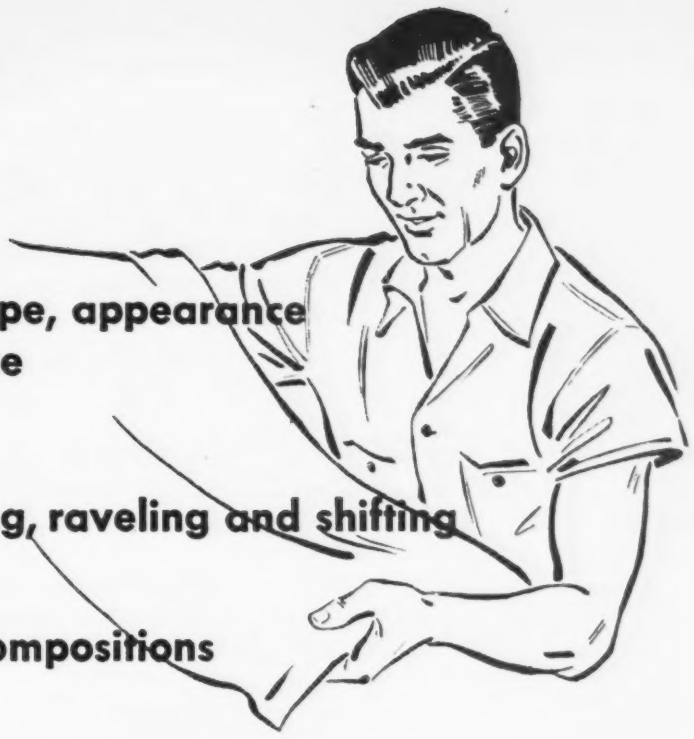

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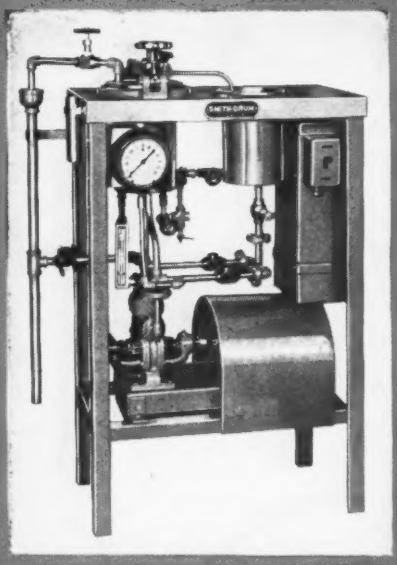

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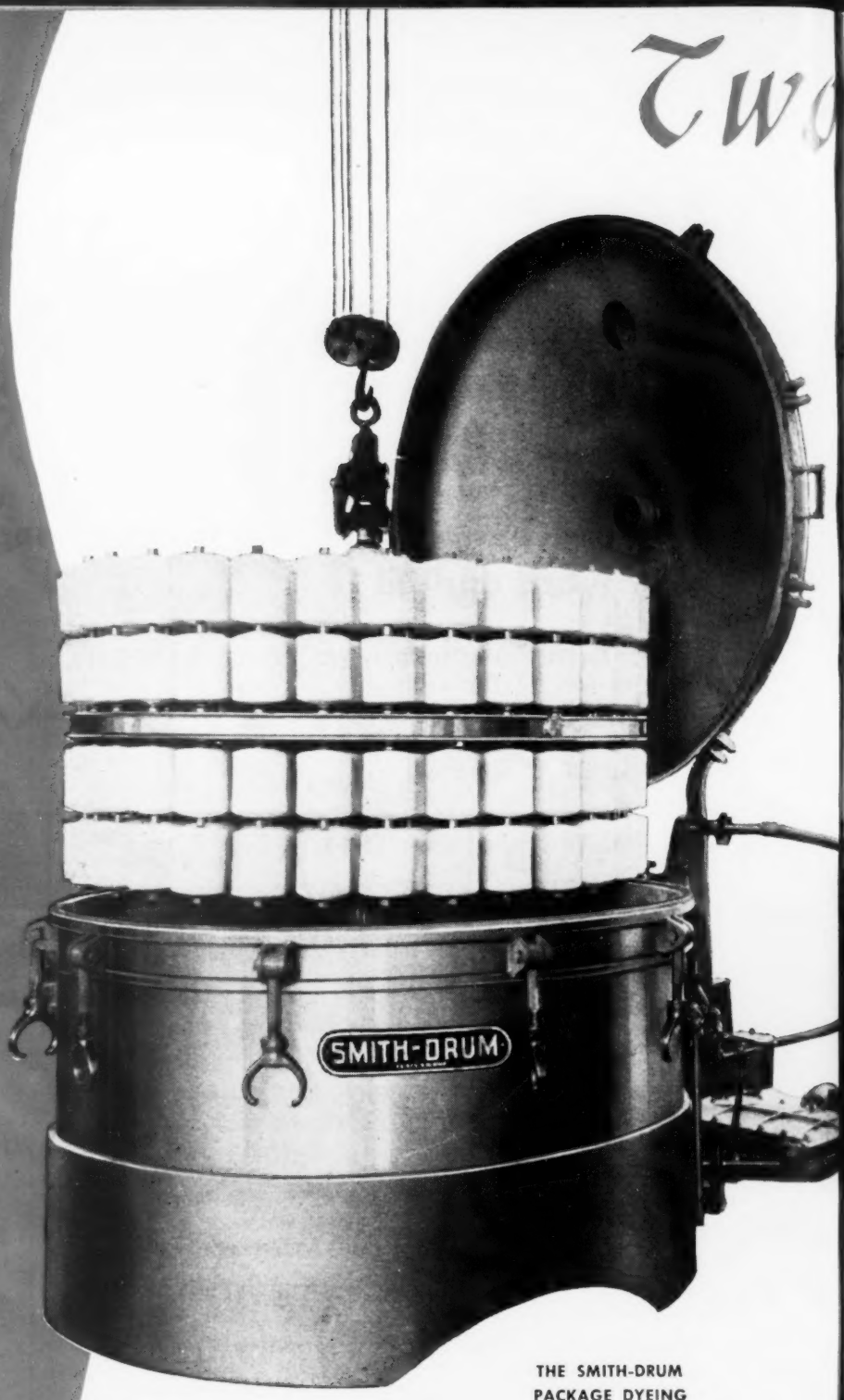

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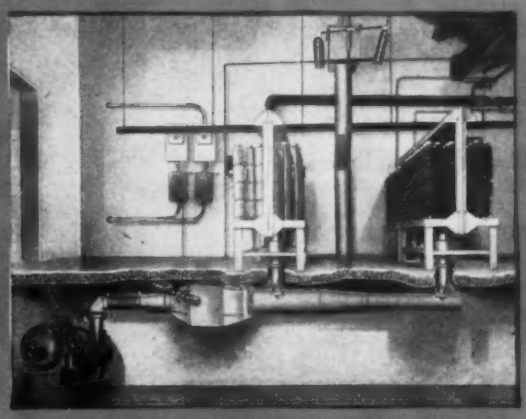

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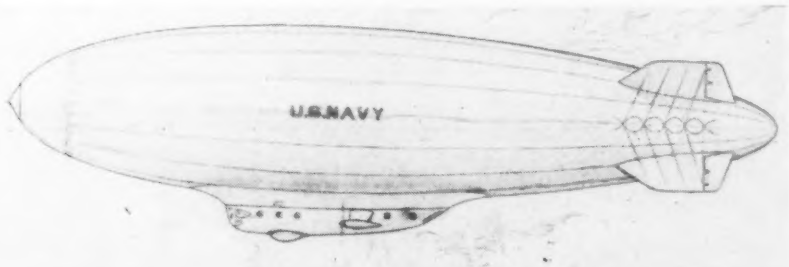
ward in relation to the chance taken. However, the business prospects of that part of the textile industry which is going to act as supplier are good as to volume, poor as to price and indifferent as to profits." William C. Planz, vice-president, Textile Export Association, said that export business has "fallen out of bed" due to a combination of circumstances, the chief ones being lack of dollar exchange and increasing Japanese competition. For the long pull the outlook is not hopeless provided that the industry gets the proper consideration of its problems by the government and that Japan is not permitted to expand her production facilities beyond reasonable limits. Analyzing the outlook for long staple cotton, Walter K. Shaw, Jr., president, E. A. Shaw & Co., said that cotton farmers have definitely demonstrated that they will not grow long staples unless they receive adequate premiums either from mills or from the government loan. Citing the advances made in textile finishing in the last few years, Dr. Donald H. Powers, technical adviser, Monsanto Chemical Co., pointed out that new finishes giving wrinkle and muss resistance and shrinkage control are helping rayons to take over more of the summer suit business. He added that cotton dress and suiting fabrics may gain wider markets as a result of new wrinkle proof finishes. Major General V. H. Middleswart told the meeting that the industry has already appointed committees which are working closely with the armed services on industrial preparedness.

Combed Yarn Spinners Meet. Dr. C. T. Murchison, president, Cotton-Textile Institute, told the annual meeting of the Southern Combed Yarn Spinners Association, in Charlotte, N. C., Sept. 29 that the next congress would concern itself with the controversies arising from Supreme Court decisions in the cement and Morton Salt cases. The Capehart committee, he pointed out, is investigating the effects of these decisions and will probably recommend a modification of court rulings on delivered or basing point prices. Major-General W. H. Middleswart, chief of military planning division, Office of The Quartermaster General, U. S. Army, also spoke; as did Percy S. Howe, Jr., president of American Thread Co. and Walter S. Montgomery, president and treasurer of Spartan Mills. George A. Sloan, chairman of the board of the *Southern Agriculturist* and formerly president of the Cotton-Textile Institute, was speaker at the banquet.

SHMA Stresses Human Relations. Human relations and good management together was the theme of the recent annual meeting of the Southern Hosiery Manufacturers Association at Augusta, Ga. Good prospects for future industrial development of the Southeast were stressed by Erle Cocke, Jr., general industrial agent of the Georgia Railway, Atlanta, Ga. Donald Comer, chairman of the board, Avondale Mills, made a plea for closer understanding of the problems of the working man, particularly the stimulation of his desire to own a home. He stressed home-owning as a stabilizing influence and a step toward more responsible citizenship and toward higher production to offset the rise in prices. "There are 1,200 Avondale families who own their homes and small farms" he said. "Our company has had a part in a great many of these results. We have loaned over a million dollars at one time or another and have never lost a cent." I. W. Drake, of Burlington Mills Corp., and Claude Frederick, of Hanes Hosiery Mills Co., discussed absenteeism and turnover, and Barry Wright, attorney of Rome, Ga., presented the many features of the Taft-Hartley act that



NEW USE FOR FORTISAN. The U. S. Navy Bureau of Aeronautics has announced the award of a contract to the Goodyear Aircraft Corp. for the engineering design of a type-"N" non-rigid airship. Largest non-rigid, lighter-than-air craft ever contracted for by the U. S. Navy, the "N" ship will have a helium capacity of 825,000-cu. ft. The envelope will be three-ply Fortisan fabric coated with Neoprene synthetic rubber. This construction will give the best strength-to-weight ratio ever used in lighter-than-air ship construction.

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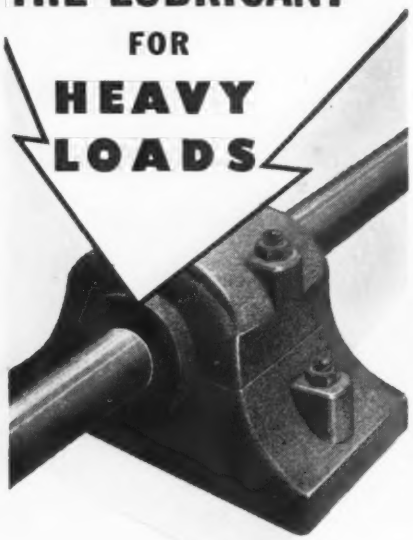

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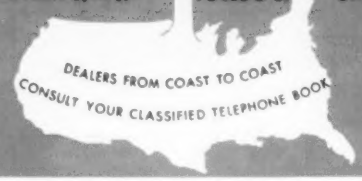

would be of interest to the hosiery manufacturers. The report of Taylor R. Durham, president and secretary, emphasized the point that "among the more important activities of the association during the past year has been its concern with employee relations."

STA Meets at High Point. Walter D. Vincent, superintendent of Dan River Mills, Inc., succeeded J. B. Powell as chairman of the Northern North Carolina-Virginia Division of the Southern Textile Association at the Sept. 11 meeting in High Point, N. C. W. B. Ward, superintendent of Highland Cotton Mills, was elected vice chairman; and Howard Barton, superintendent of Marshall Field & Co. Fieldcrest Mills, was elected secretary. Officials of Highland Cotton Mills were hosts to the division members at a luncheon. Addresses were made by Herman Cone, president of Cone Textile Corp., Greensboro, N. C., and by Dr. C. J. Schollenberger of Dan River Mills, Inc., Danville, Va. Mr. Cone pointed out the necessity for good public relations including not only employees but also the general public. Dr. Schollenberger pointed out that 92% of a supervisor's job has something to do with dealing with people, and stressed the necessity for personnel and general background training for supervisors as well as for technical and practical training.

CTI Speakers. Lowell B. Mason, chairman of Federal Trade Commission, Raymond Moley, editor of Newsweek, and J. M. Broughton, former governor of North Carolina, are among the speakers who will appear at the annual meeting of the Cotton-Textile Institute at the Plaza Hotel, New York, on Nov. 11. The morning session will also be addressed by George S. Harris, chairman of the institute board, and Dr. C. T. Murchison, president.

Holland Buys Japan Textiles. One of the biggest "offshore purchases" to be authorized by ECA to date was made in textiles on Sept. 7 when that organization gave the Netherlands a green light to buy $12,250,000 of cotton fabrics in Japan. This happened to be the first time that ECA buying has been authorized in Japan.

To Lend on Farm-Stored Cotton. The U. S. Department of Agriculture has amended the 1948 cotton loan program to provide for loans on farm-stored cotton. The County Agricultural Conservation Association Committees will handle the program in the counties and will approve structures on or off the farm for the storage of the loan cotton.

India Wants Textile Machinery. NEW DELHI, India (*McGraw-Hill World News*)—Estimating her total requirements at more than $600,000,000 in American machinery and capital goods over the next five years, India will need $30,000,000 worth of textile machinery, $100,000,000 worth of boilers and engines, and $45,000,00 of electrical machinery. These official estimates form the basis of Indian efforts to win greater export consideration in Washington. They are stated to be the minimum requirements if the country is to keep pace with its ambitious industrial development plans. Feeling here now is that India is forced to go begging while European recovery is being overstressed.

Color Catalog. One of the world's most complete dye color catalogs, prepared by I. G. Farbenindustrie of Germany, is now available to interested American firms on a no-charge loan basis, according to John C. Green, director of the Office of Technical Services, Department of Commerce. The catalog, consisting of 57 volumes, contains dyed samples of bleached and unbleached cotton, rayon, silk, weighted silk, silk and cotton, etc. Dyes used include Napthol A.A., Indanthrene, immedial, substantive, chrome, acid, Celliton, Palatine, Rongalit, Sirius, and other types.

TWUA Urges Air-Conditioning. The Textile Workers Union of America, CIO has proposed universal adoption of air conditioning in the textile industry as a step in achieving maximum production and in eliminating labor-management tensions arising from unbearable atmospheric conditions in textile mills. The proposal was made in a manual, "Air Conditioning in Textile Mills," prepared and published by the TWUA research department. Solomon Barkin, TWUA research director, said the study was published in an effort to promote good labor-management relations by ridding the textile industry of problems arising from poor atmospheric conditions.

A Combination Finish. United Piece Dye Works, Lodi, N. J., has added Unisee to its family of special finishes. It is a combination of two of its special finishes: Durasee, durable water-repellent finish, and Unidure, the permanent crease-resistant finish.

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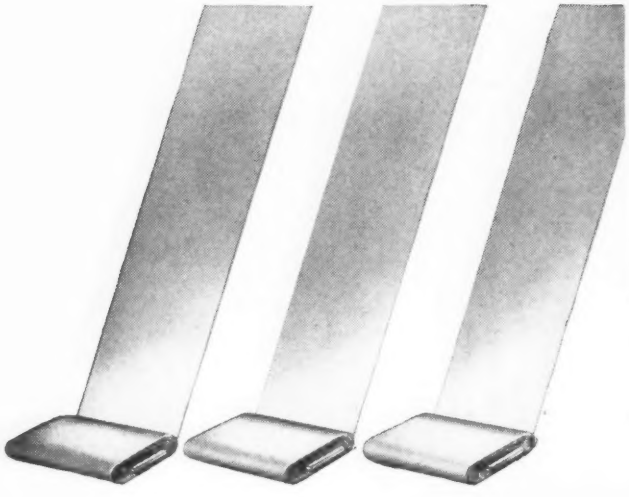

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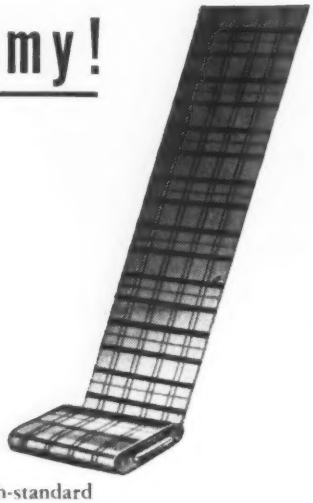

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NEWS ABOUT *Suppliers*

Lockwood Greene Engineers, Inc., Spartanburg, S. C.—Thomas O. Ott, Jr., has resigned as textile engineer for the J. E. Sirrine Co., Greenville, S. C., to join Lockwood Greene in Spartanburg, where he will handle that firm's textile engineering work. Prior to joining Sirrine, Mr. Ott was Southern editor of TEXTILE WORLD, previous to which he had held responsible connections with a number of mills.

Universal Winding Co., Providence, R. I., at its annual meeting, reported for the fiscal year ended June 30, 1948, that sales amounted to $15,781,068. Net income, after taxes and after a reserve of $150,000 for excess cost of replacing plant, amounted to $1,063,229. This compares with net income, after taxes, of $742,173 for the fiscal year ended June 30, 1947, on sales of $9,863,019. Shipments for the last six months of the fiscal year amounted to $10,550,354. Robert Leeson, president, stated that it was expected shipments would contine at approximately this rate for the current fiscal year and thereafter a gradual tapering off was expected as backlogs were met.

M. W. Kellogg Co., New York, has announced that installation of the new automatic mass-production assembly line for volume output of the new Kellogg loom is under way at the Jersey City plant. During the preliminary and introductory period of the loom, it was produced on a pilot assembly line which is being discontinued. During the period of small-scale assembly, several hundred looms were produced and shipped to mills for test. The operation of the test looms in mills brought to light several features on which improvement seemed possible. It is expected that the design changes will be completed by the time the mass-production line is ready for operation.

Ansul Chemical Co., Marinette, Wis., has moved its Detroit office to new and larger quarters at 1056 W. Baltimore Ave. C. F. Hooper is district manager.

JOHN D. ROLLINS, formerly with Borden, Burlington, and Dan River Mills in various positions, has been appointed sales engineer for the American MonoRail Co. at its Charlotte, N. C., office. Mr. Rollins is a graduate of North Carolina State College with special training in textile engineering.

Scott & Williams, Inc., New York, N. Y., has appointed Miss Bella Callaghan as assistant to Miss Adele Gilruth, publicity director. Miss Callaghan was formerly associated with the Hazard Advertising Co., New York, where she worked on the Scott & Williams campaign to publicize seam-free nylons.

Steel Heddle Mfg. Co., Philadelphia, Pa., has opened the new plant for its Southern Shuttles Div. at Paris Station, Greenville, S. C. According to J. J. Kaufmann, Jr., vice president and manager of Southern Shuttles Div., the erection of this modern, air-conditioned plant, plus expenditures for new equipment and the equipment transferred from the 621 East McBee Ave. plant in Greenville, brings the project cost to $750,000. This plant will double production capacity. The present plant on McBee Ave. will be used for the manufacture of pitch band and all metal reeds.

Textile Colors Div., Interchemical Corp., Fair Lawn, N. J.—Winn W. Chase, of this division, has been making an

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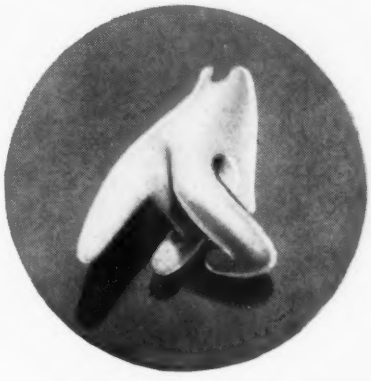

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NEWS ABOUT *Suppliers* (Continued)

extensive trip abroad, including textile centers of European countries and India, on a survey of the market for Aridye pigment colors and Interchem dyes.

Quaker Chemical Products Corp., Conshohocken, Pa., has let contracts for erection of additional plant space to occupy ground recently acquired. The building will cover approximately 20,000 sq. ft. and is expected to be completed by end of year.

Resinous Products & Chemical Co. merger with **Rohm & Haas Co.** was approved in Philadelphia Sept. 14 by stockholders of both companies. The following officers were named: president, Otto Haas; executive vice president, Duncan Merriwether; vice presidents, C. E. Andrews, A. L. Blount, R. A. Connor, L. W. Covert, D. S. Frederick, E. L. Helwig, L. Klein; secretary, S. C. Kelton; treasurer, W. T. McClintock. Prior to the merger, the controlling stock interest in both companies had been held by the same group, and manufacturing and selling operations were interrelated.

Bahnson Co., Winston-Salem, N. C., has launched a new program of customer relations by offering to hold classes for operating and maintenance engineers. The classes extend for two weeks. The three general topics include: refrigeration and its component parts, air distribution and its component parts, and controls.

United States Testing Co., Inc., Hoboken, N. J., has added to its staff Dr. Clarence W. Winchell, who recently resigned as chief of the Bureau of Standards of New Jersey. Dr. Winchell will have charge of preparing specifications and standardization for official purchasing commissions and institutions, developing sources of materials and testing these materials, for specific uses.

New Departure Div., of General Motors Corp., Bristol, Conn., has appointed Frank J. Miller to succeed Lester G. Sigourney, retired. Lorne F. Lavery, formerly manager of the Detroit office, becomes assistant general sales manager at Bristol, Conn. Charles D. McCall, formerly manager of automotive sales at Detroit, succeeds Mr. Lavery. Howard A. Offers, sales engineer in the Chicago territory, becomes manager of the Mid-western region with headquarters in Chicago. Raymond J. Lynch, formerly engineer of the Chicago office, is now supervisor of engineering for the central and Mid-western regions.

LOUIS E. RAU has been appointed head of the recently reopened Buffalo, N. Y., office of the Crocker-Wheeler Electric Mfg Co., Div. of Joshua Hendy Corp., Ampere, N. J., in the Ellicott Square Bldg. Mr. Rau comes to Buffalo after several years on the staff of the New York district office.

Sylvania Div. of American Viscose Corp., Wilmington, Del., has appointed Richard E. Reynolds as branch manager of the Atlanta, Ga., office. He succeeds the late Elmer C. Nation, who died Sept. 4.

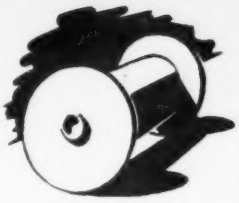
United States Rubber Co., New York—Harry G. Warren, Atlanta, Ga., district manager for the mechanical goods division of U. S. Rubber Co., has retired after 25 years of continuous service.

C. H. Hall Lamp Co., Detroit, Mich., a pioneer in the development of electric infrared heating, has sold its Radiant Heat Div. to Triangle Equipment Co., Nutley, N. J. The nationwide sales organization of the Radiant Heat Div. is being taken over by Triangle. No change in sales or service policy is contemplated.

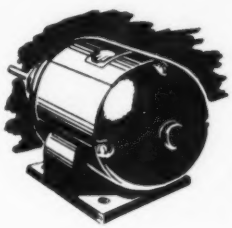
Tolhurst Centrifugals Div. of American Machine & Metals, Inc., East Moline, Ill., has appointed Harold L. Mooney as director of market research.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., has appointed

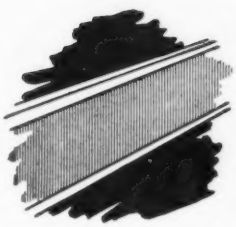
Money-Saving Maintenance Cleaning for the Textile Industry



CLEANING PLASTIC SPOOLS . . . Remove tough-to-budge deposits from plastic spools without etching or distortion. Use specialized Oakite kind-to-surface cleaning materials. Your local Oakite Technical Service Representative will be glad to suggest a formula for low-cost efficient cleaning.



REBUILDING ELECTRICAL MOTORS . . . Use recommended Oakite materials for cleaning before rebuilding or repairing electrical motors. Powerful Oakite detergents soften up insulating tape for easy removal without scraping. Performance-proved Oakite cleaning set-up gladly installed.



REMOVING RUST FROM REEDS . . . Use Oakite Compound No. 36 to prolong the life of steel reeds . . . to reduce reed replacement costs. This mildly acidic material quickly removes light rust deposits . . . leaves a fine protective phosphate coating that discourages further rusting. Send for directions.

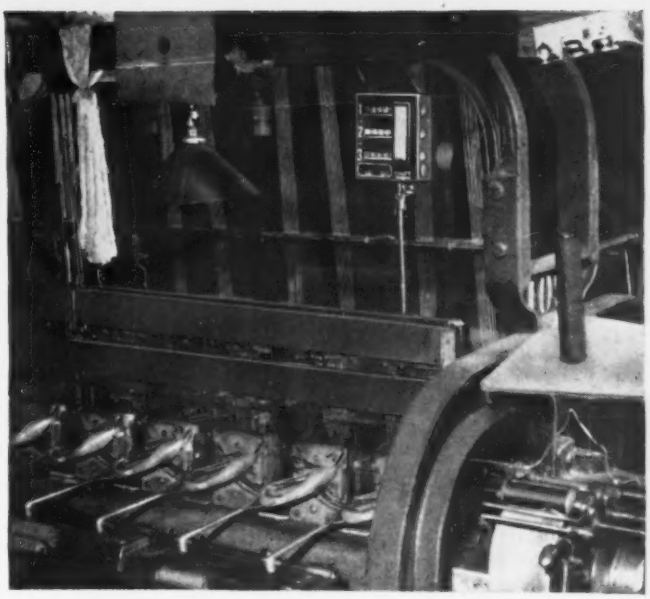
FREE! DIGEST OF CLEANING TIPS

These three money-saving tips are selected at random from the 16-page Oakite Digest of Maintenance Cleaning For Textile Mills. Digest contains 63 equally worthwhile suggestions. Send for this valuable cleaning guide today. Your free copy will be mailed postpaid immediately upon request.

OAKITE PRODUCTS, INC., 42 Thames St., NEW YORK 6, N. Y.
Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE
REG. U. S. PAT. OFF.

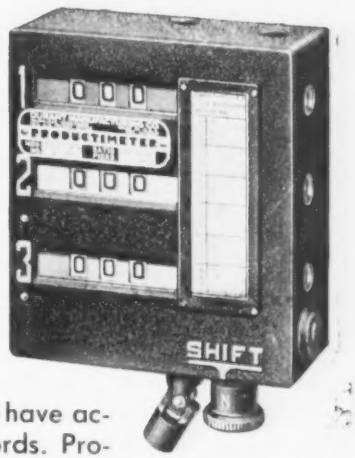
Specialized Industrial Cleaning
MATERIALS • METHODS • SERVICE



Pick Counting *on a* RIBBON LOOM

PRODUCTIMETER
3-SHIFT PICK COUNTERS

Especially designed to meet the varied requirements of mill men . . . ruggedly built for long, continuous wear. Also available in 1-Shift and 2-Shift models.



Every mill man needs to have accurate production records. Productimeters meet every need in textile mills . . . eliminate losses . . . help maintain maximum production . . . and provide an accurate basis for wage payment.

Precision engineered and ruggedly built for long, continuous usage . . . there is a Productimeter for every application of counting in the textile industry.

Send for Catalog No. 50.

DURANT MANUFACTURING COMPANY
1931 North Buffum Street, Milwaukee 1, Wisconsin
131 Orange Street, Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS
SINCE 1879

Announcing—

MOLDED

ONE PIECE

NYLON FLYER BLOCKS

FEATURES

NEED NO LUBRICATION
•
BORE MOLDED TO FIT SPINDLE
•
SMOOTH FINISH
•
NO LOOSE PARTS
•
BALANCED FOR UNIFORM TENSION
•
LIGHTER IN WEIGHT
•

These new Nylon Blocks are available in 3 types and in 2 colors, black and white. The use of two colors readily determines whether the block is wired right or left hand. Blocks are rust-proof and washable. Being molded — not reamed or drilled — the bore is smooth and non-porous. The molding process insures uniformity in size, weight and fit on the spindle. Wiring is simple, no tools or jigs. And wiring is *fast* with McHale's high grade moderately priced ready formed wires. Have successfully withstood 18 month mill test.

M. J. McHALE CO.
136 West Market St.,
SCRANTON 8, PA.

takes more to make a
SHAMROCK
...but they wear...and WEAR!

Canvas Baskets, Hampers, Trucks

Made in many standard sizes—or in special sizes and styles to suit your need. *Write for complete catalog!*

Ask your Jobber.

MEESE, Inc.
261 Mitchell St., Madison, Ind.

NEWS ABOUT *Suppliers* (Continued)

Robinson F. Barker as assistant manager of plate glass sales. Prior to Mr. Barker's transfer to the firm's general offices in Pittsburgh, he had served as manager of the Nashville, Tenn., warehouse.

Willcox & Gibbs Sewing Machine Co., New York, N. Y.—C. Douglas Mercer, president and director, sailed Sept. 23 for an extended business trip to Great Britain and the Continent. He is also a director of Willcox & Gibbs Sewing Machine Co., Ltd., London, England. He plans to return to the United States about the middle of November.

Foxboro Co., Foxboro, Mass., has erected a new building for its Houston, Texas, branch at 2518 South Boulevard, Houston 6. The new building will provide facilities for the sale and servicing of Foxboro products, with the added space for warehousing.

Acme Steel Co., Chicago, has moved its New Orleans, La., office to new quarters at 860 St. Charles Ave., New Orleans 13.

Monsanto Chemical Co., St. Louis, Mo., has appointed Kenneth W. Short as acting purchasing agent for its Plastics Div. He succeeds Glenn M. Bullard, who retired Oct. 1. Monsanto has begun commercial production of vinyl chloride plastic resins; and Felix N. Williams, company vice president and general manager of the Plastics Div. of Springfield, Mass., stated that production followed several years of extensive pilot-plant and research investigation and plant building.

Electric Industrial Truck Association, Pittsburgh, Pa., in a current report notes that the textile industry bought nearly seven times as many storage-battery-powered industrial trucks in 1947 as its average annual purchases 1936 to 1939. The report also indicates that there are 44% more users now than four years ago. Electric-industrial-truck sales to all industries in 1947 were more than 2½ times 1936-1939 average, the report shows. Expressed as an index, last year's sales mark was 262, compared with 100 for the pre-war period. The number of all users of electric trucks jumped 34% in the four years. Numbers of electric trucks in use over the four years shows a 10% increase.

***WILLIAM J. NEVIN** has been appointed as advertising manager of Devoe & Raynolds Co., New York, and as executive assistant to A. H. Mohrhusen, general merchandising manager. Mr. Nevin comes to Devoe & Raynolds with 20 years merchandising and advertising experience. He succeeds G. Purdy Hall, who has returned to a sales capacity as New York branch manager.*

United States Rubber Co., New York, has completed a new building in Atlanta, Ga., which will house both offices and warehouse, at Lee and Donnelly Sts. L. M. Moulson is branch operating manager. The building is one story, with approximately 100,000 sq. ft. of floor space, housing some 140 employees.

National Foam System, Inc., Philadelphia, foam fire-fighting manufacturers, have purchased from Arnold, Hoffman & Co., Inc., Providence, R. I., goodwill, patents, formulas, and trademark covering the wetting agent known as Drench, 1% of which is said to double the effectiveness of ordinary water in extinguishing fires. This product will be immediately manufactured at National Foam System's principal plant at West Chester, Pa.

Carbide & Carbon Chemical Corp., New York, has announced commercial production of three new glycols: butanediol-1,3; 2-methylpentanediol-2,4; and octylene glycol. This is the first commercial production in the United States of butanediol.

G. P. Blackiston, New York—This advertising organization has changed its name to McNevin-Wilson-Dalldorf, Inc., with headquarters at 55 West 42nd St., New York. The ac-

BUYING Bur-r-rlap?

Weel, it's wise and thrifty to deal with folks who *really know* bur-r-rlap*... folks you know you can depend on. So for whatever grade you need ... *look to Bemis!*

Anither important point ... There's a Bemis plant verra near you for better sairvice wherever you are.

*Each year Bemis determines the grading of burlap produced by the Indian jute mills. Bemis' grading is accepted by producers and users alike as the standard for burlap quality. This acceptance as the "supreme court" of the industry comes from Bemis' long and unequalled experience as importer, converter and distributor of burlap.

BEMIS

General Offices—St. Louis

Offices in principal cities

Mount Hope CLOTH OPENING EQUIPMENT

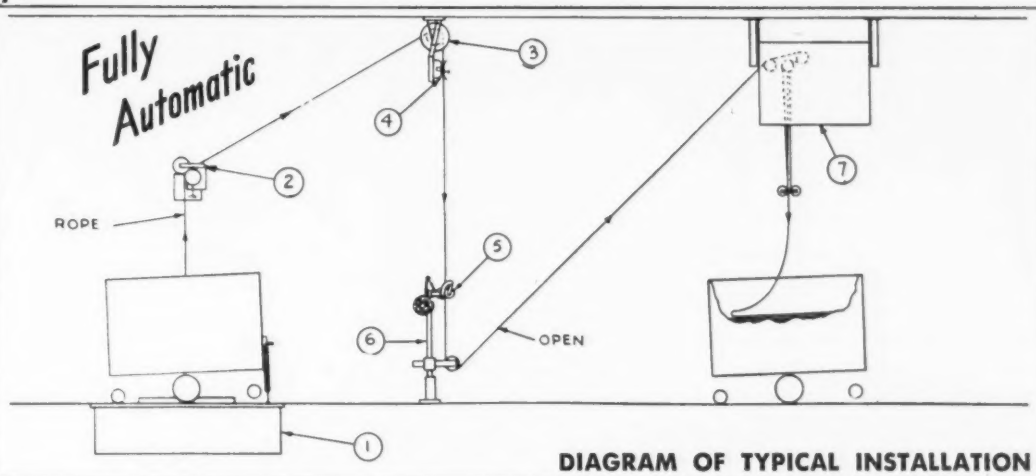


DIAGRAM OF TYPICAL INSTALLATION

INCLUDING

- Automatic Turntable Detwister (1)
- Tension Squeezer (2)
- Overhead Sheave (3)
- Detwister Switch (4)
- Swing Guider & Opener (5)
- Guider Stands (6)
- Plaiter (7)
- Draw Rolls
- Steel Pot Eyes

This fully automatic equipment opens cloth from the rope regardless of the amount of twist.

Mount Hope Devices Give:

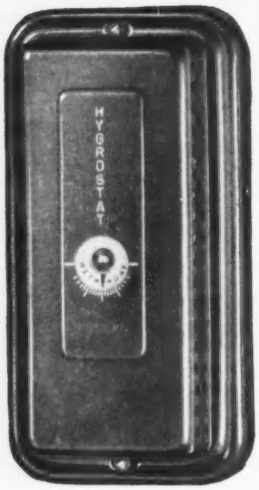
1. COMPLETE SAFE FABRIC TREATMENT
2. MINIMUM MAINTENANCE
3. QUIET OPERATION
4. INCREASED PRODUCTION

Send for Bulletin SG-CO which gives full information, including prices.

MOUNT HOPE MACHINERY CO., Taunton, Massachusetts, U. S. A.

Representatives–Parkman Collins Company, Boston–for Maine • Ingalls Engineering Company, Providence–for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson–for Southern N. Y., N. J. and Pa. • Slaughter Machinery Company, Charlotte–for the South • S. S. Wilson, 1737 Howard Street, Chicago – for Mid-West • Sidney Springer, Los Angeles – for California • W. J. Westaway, Limited, Hamilton and Montreal – for Canada.

Want More Accurate HUMIDITY Control?



POWERS new type 190 Hygrostat may be your answer. It is pneumatically operated, sensitive to the slightest changes in relative humidity. Users state "it is the most accurate hygrostat made."

Controls valves or dampers in connection with heating or cooling coils, humidifiers, air washers, humidifying atomizers, spray nozzles, etc.

Used in processing and storage rooms in textile mills, industrial plants, laboratories, printing plants, telephone exchanges, and comfort air conditioning systems in all types of buildings.

Easy to install. Room and duct type instruments. Test one. You'll buy more to replace obsolete, inaccurate controls. Get Bulletin 302 for complete details.

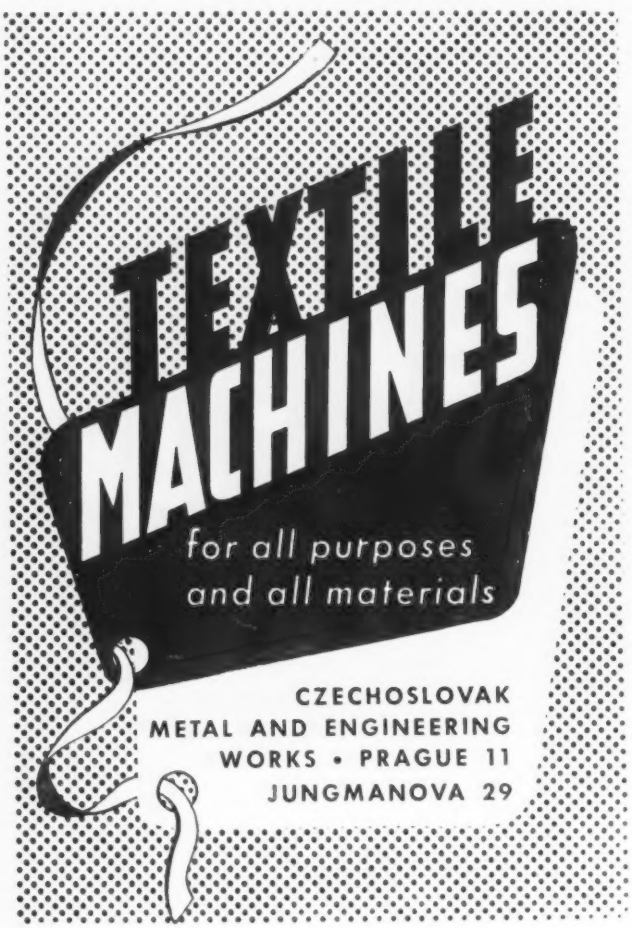
THE POWERS REGULATOR CO., 2729 Greenview Ave., CHICAGO 14, ILL. • NEW YORK • LOS ANGELES.

(HY-1)

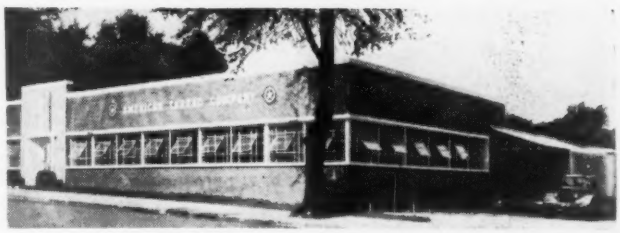
★ OFFICES IN 50 CITIES ★ POWERS ★

Over 55 years of TEMPERATURE and HUMIDITY CONTROL

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★


TEXTILE MACHINES
for all purposes and all materials
CZECHOSLOVAK METAL AND ENGINEERING WORKS • PRAGUE 11 JUNGMANOVA 29

NEWS ABOUT *Suppliers* (Continued)



AMERICAN THREAD CO., New York, has moved its branch office and warehouse to the new and larger building at 1052 Peachtree St., N. W., Atlanta, Ga., shown above. The larger quarters will facilitate handling the volume of thread and yarn products which are distributed by the Atlanta branch office.

counts formerly handled by Mr. Blackiston are being retained by present organization.

Sun Oil Co., Philadelphia, will use an improved catalytic cracking process for its $16,000,000 expansion program at its Toledo, Ohio, refinery. The advanced process, known as Houdriflow, was developed jointly by Houdry Process Corp. and Sun Oil Co.

Management Evaluation Services, Inc., Toccoa, Ga., has elected R. C. (Dick) Symth as vice president. Guy B. Arthur, Jr., is president. Mr. Smyth will be in charge of New England operations.

Baker Industrial Truck Div. of Baker-Raulang Co., Cleveland, Ohio, has appointed Fred R. Ramsen, 2120 South 7th St., St. Louis 4, Mo., as district sales representative in southern Illinois and eastern Missouri. W. B. Landers, 702 M & M Bldg., Houston 2, Texas, is now district sales representative in southeast Texas.

Sun Chemical Corp., New York, has begun construction of a new plant in Wood River Junction, R. I., to house the Warwick Chemical Div. of the corporation, consolidating the facilities of the plant in West Warwick, R. I., and the present plant in Wood River Junction. The Warwick division manufactures textile chemicals.

Koppers Co., Pittsburgh, Pa., has elected Arthur B. Van Buskirk, vice president and a member of the board of T. Mellon & Sons, to the Koppers' board of directors. He succeeds Donald D. Shepard, of Washington, D. C., who resigned. The Chemical Div. of Koppers Co., Inc., has opened an office in the McKerchey Bldg., 2631 Woodward Ave., Detroit, with William V. DeGalan in charge.

Third National Materials Handling Show will be held at Convention Hall, Philadelphia, Jan. 10 to 14, 1949. Clapp Poliak, Inc., New York, is manager of the exposition which is devoted to various systems of handling materials in production and shipment. The show will be one of the five largest annual industrial expositions to be held in this country, according to the managers.

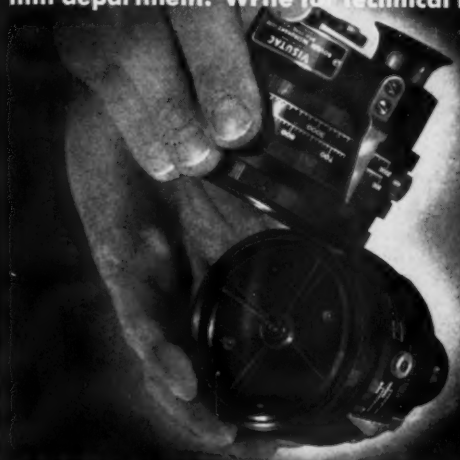
Hungerford & Terry, Inc., Clayton, N. J., has appointed William M. Longshore, of 4109 Polk St., Houston, as representative in the Houston, Texas, territory. Mr. Longshore has had many years experience in water treatment work.

Hagan Corp., Pittsburgh, Pa., has elected D. J. Erikson as president of the corporation and its subsidiary companies—Calgon, Inc.; Hall Laboratories, Inc.; and Buromin Co. He joined the company in 1919 and succeeds J. M. Hopwood, president since 1918. Mr. Hopwood was elected to the new position of chairman of the board of directors.

Rapids-Standard Co., Inc., Grand Rapids, Mich., has appointed Crosby M. Kelly as director of advertising and sales promotion. Mr. Kelly comes to Rapids-Standard after seven years with Ford Motor Co. in Dearborn.

Sylvania Electric Products Co., New York, has appointed R. B. Fogarty as assistant division manager in Atlanta, Ga., J. G. Fulwiler as field representative in Atlanta; and Judson Demarest as field representative in New Orleans. Hugh Saussy is Southeastern division manager. The Atlanta offices have been moved from the William Oliver Bldg. to the Southeastern Industrial District Bldg.

From any angle Visutac is the ideal stroboscopic tachometer for the textile mill. Equally good for speed reading or observation of cyclic motion such as spindles or needle actions. No contact with moving parts hence no danger — no drag — no thrust bearing wear. Completely portable. Two basic ranges 500 to 8000 RPM/VPM and 1000 to 16,000 RPM/VPM. Priced for use in every mill department. Write for technical bulletin.



BOULIN INSTRUMENT CORPORATION

Portable and Stationary centrifugal Tachometers
Portable Chronometric and Stroboscopic Tachometers

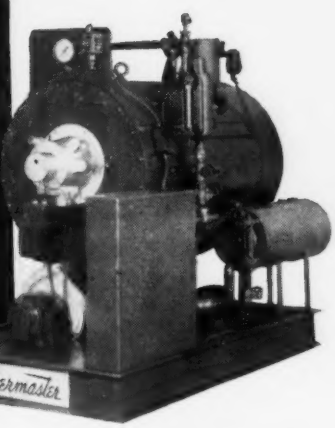
65 MADISON AVENUE, NEW YORK, N. Y.

O&S

MULTIPLE-FUEL

Powermaster®

STEAM GENERATOR



New COST-SAVING FEATURES!

THE NEW "POWERMASTER" is a fully-automatic steam generator of an improved Scotch Marine design and introduces many labor-saving, cost-reducing features. Has free-swinging rear cover that exposes tubes in a few minutes—built-in feed water system—air-atomizing burner—easily accessible parts for speedy cleaning and maintenance. Moreover, this "packaged" steam generator operates efficiently with light oil, heavy oil or gas—interchangeably. Get complete description and specifications.

Write for Bulletin #1216--to

ORR & SEMBOWER, INC.

970 Morgantown Rd., Reading, Pa.

FRIEND OF THE PLANT OWNER... WHO HAS A WET SURFACE MAINTENANCE PROBLEM

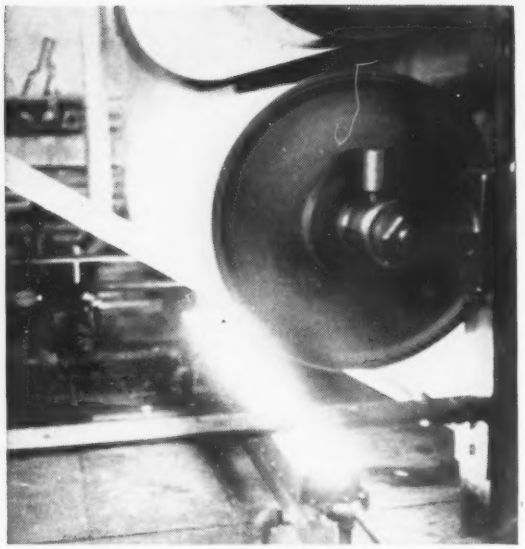
The Damp-Tex system of painting kills rust, rot, fungus and bacteria. Stops deterioration. Can be applied on any paintable surface, *wet* or dry, with equal ease and efficiency... changing dingy, rough light-blotter interiors into glistening porcelain-like beauty. One coat covers. Resists acid, alkali, corrosive gases and oxidation. Dries overnight without flavor-tainting odor into waterproof film. Comes in white and colors. Write for our trial offer.

LIQUID PORCELAIN-LIKE

DAMP-TEX FOR WET OR DRY SURFACES

STEELCOTE MFG. CO. • ST. LOUIS, MO.

Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada



RED-RAY BURNERS

Red-Ray Radiant Gas Burners operating under steam dryers. Greater drying speeds. No additional space required.

Write for Bulletins

RED-RAY MANUFACTURING CO., Inc.

455 West 45th Street • New York 19, N. Y.

For Maintained Shrinkage— Perfect Finish—Long Life

HUYCK

→COMPRESSIVE SHRINKAGE←

BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

***PALMER BLANKETS*—also available for your special requirements.**

Write for information or see our representative

F. C. HUYCK & SONS
KENWOOD MILLS
Albany 1, New York

NEWS ABOUT Mills

Cotton Mill News

Arcade Cotton Mills, Inc., Rock Hill, S. C., will construct two-story addition which will cost more than $150,000, with equipment.

Arkansas Cotton Mills, Inc., has assumed possession of Morrillton Cotton Mills Co., Morrillton, Ark., concluding negotiations announced in May. Production will be changed from cotton duck to corduroy gray goods. New owner purchased plant for $1,000,000.

Arlington Mill, Gastonia, N. C., unit of Textiles, Inc., has installed new opening machinery and new pickers. This replaces old machinery of mill.

Banning Cotton Mill, Carrollton, Ga., formerly operated by A. L. Fuller, has been purchased by C. E. Goodroe, of Dalton. C. D. Goodroe is plant superintendent.

Albert J. Barston, Inc., Midland Park, N. J., and Charlotte, N. C., is constructing $250,000 weaving mill at Lavonia, Ga. Mill building will be of brick, steel, and concrete; one story, 90x400 ft. Fisk-Carter Construction Co., Spartanburg, S. C., has contract. Eubanks & Caldwell, Inc., Roanoke, Va., is architect.

Beaumont Mills, Spartanburg, S. C., has installed 26 additional cards and has added 2,700 sq. ft. of floor space in redesigning and expansion of carding department. New equipment has also been installed in opening and picker rooms.

Casar, N. C.—New cotton-yarn mill is under construction here that is expected to be ready for operations by Dec. 1. Main building will be one-story, 150x75 ft. Smaller building, 50x75 ft., will be added for boiler room. A. C. Brackett, R. J. Woods, James White, Carmine Brackett, and Emerson Pruett are principals.

Crescent Corp., Pawtucket, R. I., which recently purchased holdings of Esmond Mills at Dover, N. H., from Textron, Inc., has taken over plant.

Cross Cotton Mills, Marion, N. C., is installing air-conditioning and cleaning system and making other improvements to plant at total cost of $150,000.

Dallas Mill Div., Dallas, Ga., unit of A. D. Juilliard & Co., has been purchased by Otto M. Feil, industrial realtor of Atlanta, and Comer Machinery Co., also of Atlanta.

Douglas Mills, Inc., Douglasville, Ga., has added 2,016 spindles in expansion program. Plans call for placing 150 looms on 100x60s broadcloth, which is new for mill.

Eastman Cotton Mills, Eastman, Ga., has $250,000 modernization program under way that includes partial remodeling of plant and installation of new equipment.

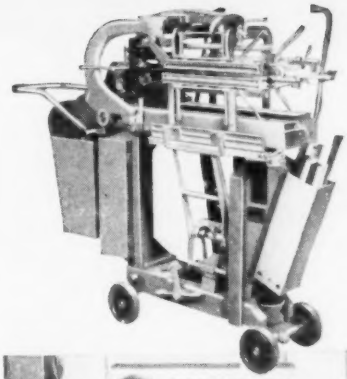
Gambrill & Melville Mills Co., Bessemer City, N. C., plans modernization that will cost approximately $250,000. Mill is being changed over to Whitin long-draft roving and spinning equipment; and Barber-Colman spoolers and high-speed warpers will be installed.

Greenwood Cotton Mills, Greenwood, S. C., plans to construct another branch mill at Ninety-Six, S. C.

Hanover Mills, Gastonia, N. C., unit of Textiles, Inc., has installed long-draft carding and spinning machinery. Same type machinery will also be put in at Pinckney and Rankin mills, also units of Textiles, Inc.

Norris Cotton Mills Co., Cateechee, S. C., has awarded contract for air-conditioning system for spinning department, including 200-ton refrigeration plant for service. Cost will be about $150,000.

Ottaray Mills, Union, S. C., division of Deering, Milliken & Co., Inc., has begun construc-



BARBER-COLMAN
Portable
WARP TYING MACHINE

USED WITH SEPARATE BEAM FRAME AWAY FROM LOOM ENABLES MILL TO TIE-IN AND STORE EXTRA LOOM BEAMS

ONE SHIFT ON WARP TYING MACHINE MAKES UP BEAMS FOR TWO SHIFTS ON LOOMS

The weave room for this mill gets its entire warp replenishment from the tying-in department shown above. Here the ends left in the lease and the ends on the new warp are joined. The beams, with proper harnesses and reed all tied-in, are placed on dollies and lined up for delivery to the weave room. Warps with closed drop wires can also be tied; open-end drop wires are replaced at the loom.

While this arrangement requires additional investment in harnesses and beams, in many instances it will pay off in reduced loom down time, when circumstances are suitable. Certain kinds of work should be tied-in at the loom, but often there are cases where tying-in away from the loom will produce substantial savings.

In this mill, the warp tying machine operator is able to prepare beams twice as fast as they are needed in the weave room — with the result that the tying-in department works only one shift to two on the weaving. The extra beams are made up and stored until called for. Note the racks in the background of the picture; they hold leases for various patterns not currently in production, with the ends cabled and knotted ready for combing out and tying-in when wanted.

The Barber-Colman Portable Warp Tying Machine with supplementary Beam Frame is an ideal unit for this set-up because of its speed and flexibility. An average operator can tie up to 4000 ends an hour with this machine, depending on material, and can handle a wide range of counts with only minor adjustments. Barber-Colman Portable Warp Tying Machines are made in several models for all types of yarns — cotton, wool, or synthetics in flat sheets or end and end leases. For details of operations and specific suggestions for application to your work, we suggest you consult your Barber-Colman representative.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

MILTON

can help end your beaming problems!

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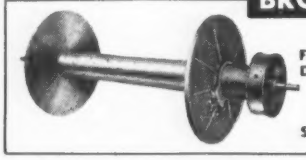

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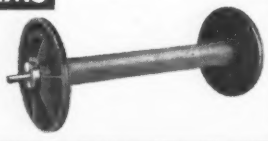

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Consultants to the Textile Industry

NEWS ABOUT *Mills* (Continued)

tion of apparatus room and installation of air-conditioning equipment, which, together, will cost about $225,000.

Pittsfield Mills, Pittsfield, N. H., has been purchased by Cumberland Machine Corp., New Bedford, Mass.

Springs Cotton Mills, with plants at Fort Mill, Lancaster, Chester, Kershaw, and Great Falls, S. C., has purchased 1,000 ft. beach front having depth of 1,000 ft. and will develop as private seaside resort for its 11,500 employees.

Startex Mills, Tucapau, S. C., has $600,000 community improvement program under way that includes schoolhouse, community building, and sewage disposal plant.

Textiles, Inc., Gastonia, N. C., operating 13 combed yarn mills, has extensive modernization program under way which will eventually cost $2,500,000. About 75% of program has been completed.

Wool Mill News

A. L. Textiles, Inc., Woonsocket, R. I., has been organized by L. Lepoutre and A. Lepoutre, Jr., officials of Lafayette Worsted Spinning Co., to establish and operate new worsted spinning and weaving mill at Somersworth, N. H.

John Alden Woolen Mills Inc., Worcester, Mass., has purchased machinery of Coe Woolen Co., also of Worcester, and will use to manufacture women's wear. C. John Abbott, superintendent of Coe company for past 18 years, is now president of Alden company; and N. A. Phillips, treasurer.

Avery Worsted Co., New York, N. Y., has established pilot worsted-yarn plant at New Bedford, Mass., under name **Bedford Process Corp.,** at cost of $200,000. Plant operates on new process, starting with raw wool, for long-draft drawing and spinning under certain patents.

Collins & Aikman Corp., New York, N. Y. ,has secured loan of $9,000,000 from Metropolitan Life Insurance Co. for purpose of paying off outstanding bank indebtedness and to finance program of expansion, as well as to augment working capital.

Gibson Woolen Mill, Tilton, N. H., has been sold to J. P. Stevens & Co., Inc., branch of M. T. Stevens & Sons Co., North Andover, Mass.

Goodall-Sanford, Inc., Sanford, Me., which has expended $2,600,000 for machinery and equipment in last 2½ years, has appropriated additional $1,700,000 for other equipment to be installed.

Highland City Mills, Talladega, Ala., new corporation, is now ready for production of worsted knitting and weaving yarns spun on American system

Hudson Worsted Co., Hudson, Mass., has new manufacturing unit nearing completion Construction was supervised by Boston office of Lockwood Greene Engineers, Inc. New building is four stories with structural steel frame, brick walls, and steel sash.

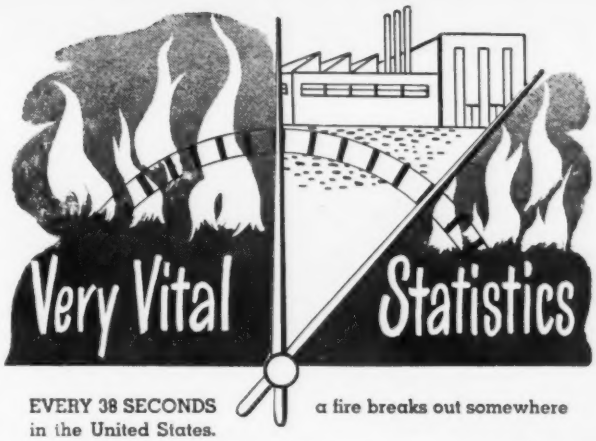
Humboldt Bay Woolen Mills, Eureka, Calif., is completing three-year modernization program that has added automatic looms, new frames, pressure tubs, and other equipment.

Lymansville Co., Lymansville, R. I., has been completely modernized. New spinning, weaving, and finishing machinery has been installed, main plant expanded, and new building constructed for finishing department which will serve the mill.

Macon, Ga.—Donald W. Barnes former superintendent of Macon Textile Co., Macon, is planning to establish a new woolen mill near Macon in near future.

Scanlon Wool Co., 613 West 40th St., New York, N. Y., has purchased former plant of American Hair & Felt Co., 352 Doremus Ave., Newark, N. J.

Wool Combing Corp. of Canada Ltd., Acton, Ont., is installing several Warner & Swasey pin drafting machines. Machinery is also being placed in recently established French combing section. There will be three sets of worsted cards made by Proctor & Schwartz, Inc., as well as finishers made by Societe Alsacienne de Construction Mecaniques, Mulhouse, France.



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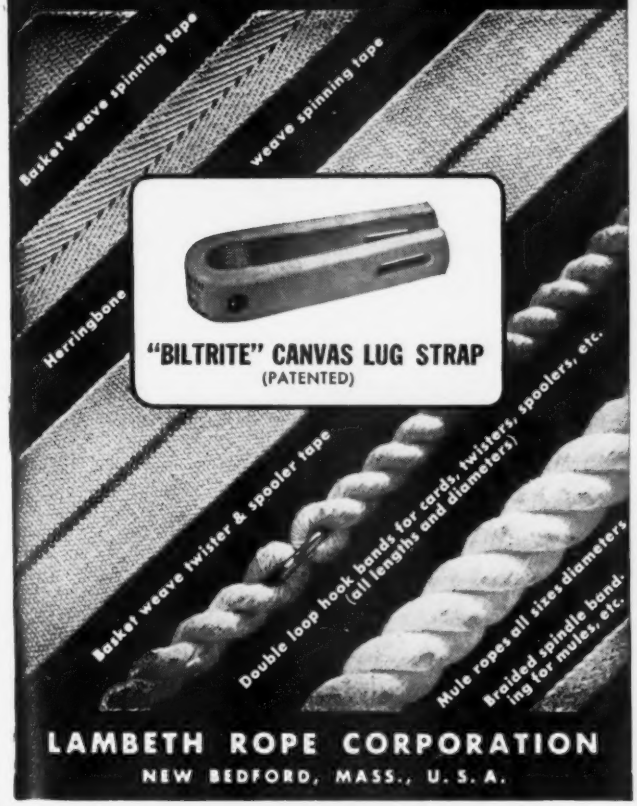
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These fine machines meet every requirement of quality production at today's high speeds.

They have among other important features:

1) Patented visible indication of stretch at all times during sizing.
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"They have installed our cost systems, labormeters, carried out time and operating studies, worked with us in labor conferences, installed quality controls, advised us with regard to merchandising, assisted us in the purchase of machinery, laid out one completely modern plant which is in operation today, employing 2,300 employees, and have submitted plans for an additional plant and modern dye house.

"We consider them the outstanding textile engineers in the country today, both with regard to ability and integrity, and, during our nineteen years of close contact with this firm, their services have been invaluable."

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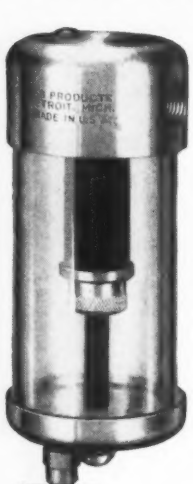

is equipped with RIBBON TYPE FILTERING ELEMENT . . . Removes solids 10 microns (.00039) and larger. It is a radical departure from general practice, bowl being transparent plastic. Consequently all foreign matter filtered from the air-line is clearly visible, eliminating guess work as to when filtering element should be cleaned or bowl drained . . . There is NO WATER, DIRT OR OIL in compressed air that has passed through this filter . . . This piece of equipment gives maximum protection to air-operated controls on Slashers and Humidifiers, also Blow-off of the Knotting Device on Barber-Coleman Spoolers, also Abbott Winders and Blow-off hoses in Weaving and Spinning Rooms . . . This new Filter affords our "Amoskeag" Pneumatic ROLL PICKER, Model A.V.T., or similarly operated equipment, maximum protection.

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NEWS ABOUT *Mills* (Continued)

Synthetic Mill News

Associated Rayon Corp., Elberton, Ga., formerly United Rayon Mills, is receiving bids on general erection contract for proposed new addition to mill that will double present floor space. Robert & Co., Atlanta, Ga., is architect and engineer.

Burlington Mills Corp. plans construction of plant at Altavista, Va., for textile dyeing and finishing to expand its policy of merchandising more of its products in finished state. Contract has been let to Daniel Construction Co., Greenville, S. C.; and work is to start immediately. Plant will be completed next summer. Company purchased 600 acres on highway No. 29 for plant site. Burlington organization has also let contract for 25,000 sq. ft. addition to Altavista Mills, Altavista, Va., weaving unit. Structure will be two-story, and used for storage, auxiliary operations, and rounding out of weaving operations. Burlington has installed 100 new Draper looms for decorative fabrics in unit of company at Galax, Va.

Coaticook Textiles Ltd., Coaticook, Que., has been purchased by Silknit Ltd., 590 King St., W., Toronto.

Duplan Corp., New York, N. Y., has acquired balance of outstanding common stock of its two Canadian subsidiaries, M. E. Binz Co., Ltd., and Valley Dyeing & Finishing Co., Ltd., in exchange for 60,000 shares of Duplan common stock.

Fine Silks, Ltd., 10 St. James St., E. Montreal, Que., is having sketches prepared for proposed addition to branch plant in Midland, Ont. Proposed building would be one-story, and of latest type of construction. Estimated cost is $500,000.

Pasquar Fabrics Co. has moved into new plant located at White Mills, Pa.

Rhode Island Fabrics Co., Pawtucket, R. I., has work nearing completion on four-story addition, 60x80 ft. Dwight Seabury Co., Pawtucket, is architect.

Textron, Inc., Providence, R. I., after announcing that Nashua and Jackson Mills of company at Nashua, N. H., would be closed and sold by Dec. 31, decided to continue the plants in operation for another year.

Textron of Puerto Rico, San Juan, Puerto Rico, subsidiary of Textron Inc., will construct five new textile and weaving-apparel plants in Puerto Rico at estimated cost of $2,500,000.

Tremont Mfg. Co., Pawtucket, R. I., has been chartered with capital of $100,000 to operate local yarn mill. Samuel H. Workman, 49 Westminster St., Providence, R. I., is principal incorporator and representative.

Valleyfield Silk Mills Ltd., Valleyfield, Que., has recently awarded contract for building of two extensions, one to present weave room and second for storage room. Weave room addition is to be one-story, 75x81 ft.; and storage room, one-story 71x61 ft.

Knitting Mill News

Aberle, Inc., Philadelphia, Pa., will soon install additional fine-gage full-fashioned machinery and discontinue 45-gage operation. After disposal of 45-gage machinery, firm will produce only 51-gage and 54-gage hosiery.

Artcraft Hosiery Mills, Inc., Corinth, Miss., has work going forward on new addition that will permit organization to add 125 more operatives to payroll.

Burson Knitting Co., Rockford, Ill., has been purchased by Kendall Co., Boston, Mass.

Duke Hosiery Mill Corp., Hickory, N. C., has closed plant at Statesville, N. C., and is moving most of equipment, including finishing machinery, to plant at Hickory. Other equipment is being sold. Statesville plant, formerly known as Crescent Knitting Mill, was taken over by Duke company three years ago.

Ellen-E Hosiery Co., Milwaukee, Wis., has newly built and regaged 28-section 51-gage full-fashioned machines ready to go into production. Company was incorporated last year in amount of $100,000 by Clarence W. Ernst, president;

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select the best materials
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You get the dividends of longer service, reduced wear and breakage with Mack Bobbins, for Allentown's specifications cover materials too.

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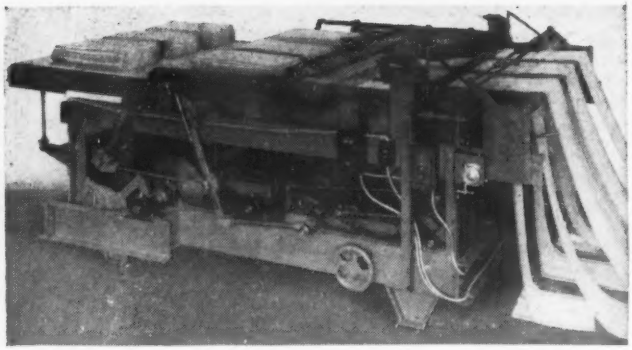

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NEWS ABOUT *Mills* (Continued)

Louis C. Ritter, vice-president, and Evelyn I. Ernst, secretary-treasurer.

Francis-Louise Mill, Morganton, N. C., has nearly completed new two-story, 48x130-ft. addition. Second floor will have new Kalio 51- and 54-gage knitting machines. Carrier Corp. is installing air-conditioning.

Georgian Hosiery Co., 992-4th Ave. E., Owen Sound, Ont., is planning to erect second floor to present building, and install more machinery.

Hudson Hosiery Co., Charlotte, N. C., plans new knitting plant that will employ 150 operatives. New building will be two stories, refrigerated and air-conditioned with constant temperature of 80° F. and relative humidity of 55%. New plant will house between 46 and 48 Reading 30-section machines. On second floor will be cafeteria for operatives and storeroom.

Jersey City, N. J.—Max Joseph, 3424 Hudson Blvd., has purchased two-story building at address noted; and will equip as knitting mill for manufacture of outerwear.

Julius Kayser & Co. has purchased Chalfont Hosiery Mills, Chalfont, Pa., which manufactures full-fashioned hosiery and is equipped with 23 knitting machines. Kayser will continue Chalfont company as subsidiary, operating it under present management. Norman L. Keller, Chalfont vice president, will be general manager in charge of operations. New owners plan to install additional knitting machines.

L. & L. Knitting Mills, Inc., New York, N. Y., has been chartered to operate mill for manufacture of outerwear. L. Berger, 1242 East New York Ave., New York, N. Y., is incorporator and representative.

Lovelady Mill, Valdese, N. C., newly organized, has completed new building, and will install machinery for 54-gage full-fashioned hosiery.

Lynne Hosiery Mills, Mount Airy, N. C., has let contract to Fulk & Needham, Pilot Mountain, N. C., for one-story addition.

Marionette Hosiery Mills, Philadelphia, Pa., is replacing lower-gage full-fashioned machinery with 54-gage Lieberknecht machines. This is part of mill's plan to offer 51- and 54-gage hosiery exclusively.

May McEwen Kaiser Co., Burlington, N. C. — Cameo Seamless Hosiery Div. will be transferred to Harriman, Tenn., where it will be consolidated with Burlington organization's seamless hosiery operation.

Roosevelt Mills, Inc., and **Manchester Knitting Mills, Inc.,** both of Manchester, Conn., have been merged under first noted name.

Sanford Hosiery Mills, Inc., Sanford, N. C., newly organized with capital stock of $250,000, is ready to get into production. New company has installed six machines, 24-section, 45-gage. Plant is brick and steel building, 45x100 ft. which company has leased for five years.

Seaford Luxury Hosiery Mill, Seaford, Del., will increase working area of plant to double its present size, and install eight 32-section Lieberknecht full-fashioned knitting machines. Complete air-conditioning system has been installed and plant is equipped with sprinkler system for fire protection.

Sheffield Hosiery Mills, Gilbertsville, Pa., nylon full-fashioned hosiery mill, will soon be established at Gilbertsville, Pa., in new one-story plant. Plant is constructed so that new sections can be added as needed. Equipment includes four Reading 30-section 51-gage full-fashioned machines of automatic welt-turner type.

Supersilk Hosiery Mills, 1151 Florence St., London, Ont., is planning to erect two-story, 46x112-ft. extension.

Ware Knitters, Inc., Ware, Mass., has sold Last-long Underwear Mill, Oswego, N. Y., to new corporation to be known as Conn Knitting Mills, Inc. Michael G. Conn, who operated Conn Knitting Mills at Utica, N. Y., will be president of new firm. C. C. Valentine & Co., Inc., New York, N. Y., has been appointed selling agent.

Winona Hosiery Mill, owned by Jess Willard Baker and Brantley Childers, has begun

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Complete color assortments

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safely, quietly, automatically controlled, in any volume, and at any temperature 40° to 180°
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with the exclusive Pick "Pressurizer Piston" . . . Made in seven sizes for direct or accumulator use.
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The new TORNADO Heavy Duty Vacuum Cleaner is designed and built to give textile men a big, extra powerful, large capacity, portable cleaner that will take the place of costly, inefficient built-in systems. Completely removes dust and lint which discolor weaving; two hose openings; 1 or 2 man operation. Proved in textile mill use to give quicker, more thorough cleaning and yet save power and labor costs.

2 HP to 7½ HP.

Scientifically designed textile attachments

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NEWS ABOUT *Mills* (Continued)

operations at Drexel, N. C., and is making infants' hosiery. Plant is housed in new concrete building.

Wollner Bros., Carrollton, Ga., new plant, is installing flat-bed knitting machinery, and operations are scheduled to get under way at early date. Plant will be operated by Harold Wollner and David Lawrence Wollner, president and vice president, respectively, of mills they operate in Paterson, N. J.

Dyeing & Finishing Plant News

Attleboro Dyeing & Finishing Corp., Attleboro, Mass., has completed large addition to plant; and has equipped it with new machinery.

Colonial Mills, Inc., new finishing plant at Clarksville, Va., is soon to be opened. New plant has three buildings, and was constructed by C. M. Guest & Sons, contractor, of Anderson, S. C., and Greensboro, N. C.

Cranston Print Works, Cranston, R. I., which recently announced plans for construction of $3,500,000 finishing plant near Hendersonville, N. C., has started clearing and excavating at site. J. E. Sirrine Co., Greenville, S. C., is engineer, with Potter & Shackelford, Inc., also of Greenville, the contracting firm. Cranston company also has foundations in and is having steel erected for boiler-room addition and alterations to Cranston, R. I., plant at cost of $50,000. Bowerman Bros., Providence, has general contract.

Dahlman Coated Fabrics, Inc., New York, N. Y., has been chartered to operate textile processing works. N. E. Dahlman, 255 West 84th St., is head.

Deering, Milliken & Co., Inc., has work under way on new woolen and worsted finishing plant near Pendleton, S. C. Plant will measure 722x 252 ft., and will be fifth mill to be built by this company in South Carolina in last five years.

Dolph Dye Works, Inc., New York, N. Y., has been incorporated to operate bleach and dye plant. S. P. Rappaport, 1450 Broadway, New York, is attorney and representative.

Hicks & Otis Co., Norwalk, Conn., sustained fire loss recently, totaling over $350,000, including buildings, equipment, and stock. It is planned to rebuild.

Holdsworth Montreal Div. of Consolidated Piece Dyers, Ltd., Montreal, Que., has nearly completed extensive modernization program started in 1946. Plant is now equipped with latest-type air conditioning and unit heaters, and has fluorescent lighting throughout. New dye house is equipped with 20 stainless-steel dye kettles having automatic temperature controllers and auxiliary equipment. Wet and dry finishing departments in main plant have also been modernized. Machinery is also being installed for dyeing and finishing of rayon and cotton piece goods. Firm primarily dyes woolen and worsted piece goods.

Pawtuxet Valley Dyeing Co., West Warwick, R. I. recently acquired by new interests, has filed notice of change of name to Valley Co.

Rex Hosiery Finishers, Inc., Philadelphia, Pa., has purchased building at B St., and will occupy property after redesigning and renovation of premises. New machinery, including special high-pressure boilers, is being installed.

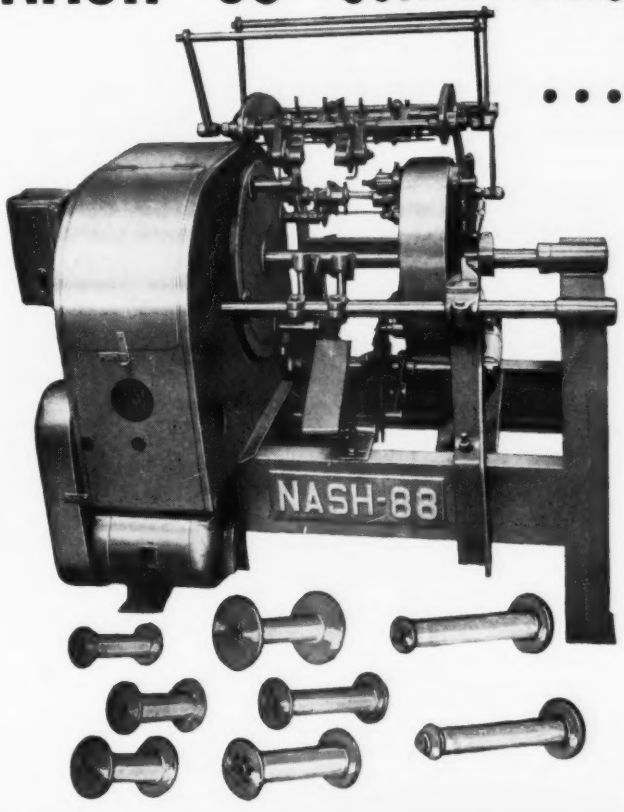
J. P. Stevens & Co., New York, N. Y.—This company is not planning to erect large finishing plant on land owned by it at Kolloch, S. C. This corrects reports given to that effect in a previous issue.

Swansea Print Works, Swansea, Mass., has awarded contract to Silva Construction Co., 59 Ferris St., Pawtucket, R. I., for new finishing plant. Israel T. Almy, 56 North Main St., Fall River, is architect.

Warwick Dyeing & Finishing Co., Inc., West Warwick, R. I., has been chartered with capital of 1,000 shares of stock, no par value, to operate bleaching, dyeing, and finishing mill. Charles P. Trumpetto, 76 Pierce St., Westerly, R. I., is principal incorporator and representative.

NASH "88" *Automatic* BOBBIN REFINISHER

...Now a Proven Veteran



Nash Bobbin Refinishers came like an answer to a prayer. There was urgent need for a machine that would keep bobbins in perfect condition and thus assure a better run-off of the rayon yarn. First came the larger No. 37 Bobbin Sander. Its acceptance and success created a demand for the No. 88, designed for mills requiring less capacity. Now, after many months of time-tested performance in the field, the No. 88, has won highest praise from users.

- It handles most types of flanged bobbins.
- Separate burnishing flanges produce a highly-polished surface of uniform quality.
- Abrasive action takes place on barrel portion inside flanges and top radius of flanges.
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- Quality that means low maintenance cost.

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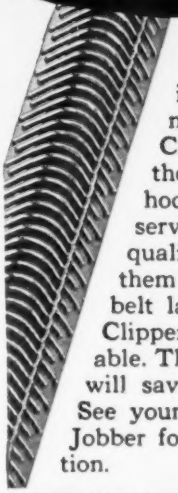

In over 30 years experience manufacturing belt lacing equipment *exclusively*, Clipper has developed the world's finest belt hooks. To get the best service from these top quality hooks apply them with a modern belt lacer such as the Clipper No. 9 Portable. This combination will save you money. See your Mill Supply Jobber for demonstration.

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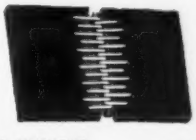

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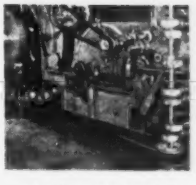

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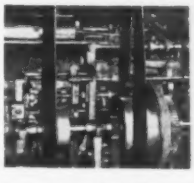

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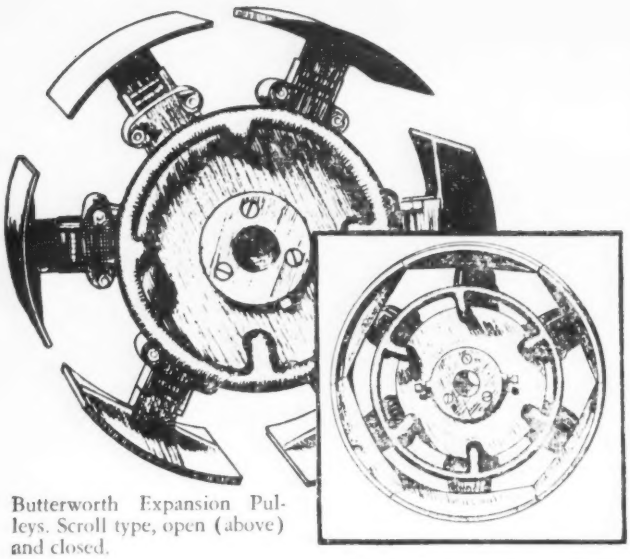

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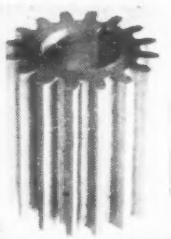

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NEWS ABOUT *Men*

T. Scott Roberts, after having served for 30 years as president of Adelaide Mills, Anniston, Ala., has been elected chairman of board. **J. G. H. Morris**, treasurer of mills, succeeds him as president. **T. P. Roberts** succeeds Mr. Morris as treasurer, in addition to his present position as manager.

A. J. Nisbet has been elected president of Triangle Finishing Corp., Johnstown, N. Y. He succeeds **Richard Evans II**, who resigned as president and treasurer last May. Mr. Nisbet was associated for 21 years with rayon, acetate, and nylon divisions of E. I. du Pont de Nemours & Co.

Henry Lineberger, of Belmont, N. C., has been elected president of Rowan Cotton Mills Co., Salisbury, N. C., to succeed his father, the late A. C. Lineberger.

Walter Dillard, of New Braunfels, Tex., formerly executive vice president and general manager of Evangeline Textile Mills, and for number of years vice president and general manager of New Braunfels Textile Mills, is now general manager of Fort Worth Cotton Mills, Fort Worth, Tex.

George V. P. Marks and **John Mueller** have been elected vice presidents of Julius Kayser & Co. Mr. Marks has been with organization since 1926 and is also director of purchases and manager of fabric sales, as well as assistant to president and chairman of latter's advisory council of junior executives. Mr. Mueller has been general superintendent of company's manufacturing plants since July, and is also vice president and general manager of Nazareth Mills, Inc.

Charles R. Van Horn has resigned as vice president in charge of production at Aberle, Inc., Philadelphia, Pa.

Arthur Rogers has been appointed vice president in charge of production at Glen Raven Knitting Mills, Inc., Glen Raven, N. C.

F. B. Galligan, vice president of Firestone Textile, Inc., Bennettsville, S. C., will become superintendent of Firestone mills at Gastonia, N. C. **E. F. Sweeney**, who has been vice president and general manager of Firestone's mills in Woodstock, Ontario, will succeed Mr. Galligan at Bennettsville, as general manager.

J. B. Harris, Jr., assistant to vice president of Greenwood Mills, Greenwood, S. C., has been made vice president.

William Loundes, Jr., who has served for 15 years as assistant to the late J. W. Burnett, succeeds him as president and treasurer of Southern Weaving Co., Greenville, S. C. Jackson W. Burnett, Jr., who has served as secretary since his return from military service, has been elected vice president and assistant treasurer. E. George McCoin who has served in the organization for six years has been elected secretary.

George E. Ward has been appointed by the U. S.-British Joint Export-Import Agency at Frankfurt, Germany, as chief of the textiles section of its export branch. Before coming to Germany, Mr. Ward was sales manager of Southeastern Cotton, Inc., New York. As the chief of the section, he succeeds Howard Veit, formerly executive vice president of M. Lowenstein & Sons, Inc., New York.

Lance Turner has been appointed assistant to Dr. John H. Dillon, Director of Research, Textile Research Institute, New York. Mr. Turner will assist in institute membership promotion and will serve as liaison between the industry and the TRI laboratories at Princeton, N. J.

Franklin W. Hobbs, long prominent in the textile industry, has been elected an honorary member of the National Association of Cotton Manufacturers. He was president of NACM from 1910 to 1912 and president of the National Association of Wool Manufacturers from 1926 to 1933. He is

SHADES OF VENUS

The ancient Greek "glamour girl" had few of the "adornments" available to her modern counterpart of 1948. Incidentally, we doubt if she was really more beautiful or alluring; certainly, she never had sheer, soft, smoky-dull hosiery to encase those shapely legs (lovely hosiery, made even more lovely by *DuraBeau Finishes*).

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1 Calibration is not required since moisture is determined gravimetrically.
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1 Moisture in the sample is quickly converted to vapor which is carried out through the filter cloth bottom of the sample pan by an adequate stream of hot air.
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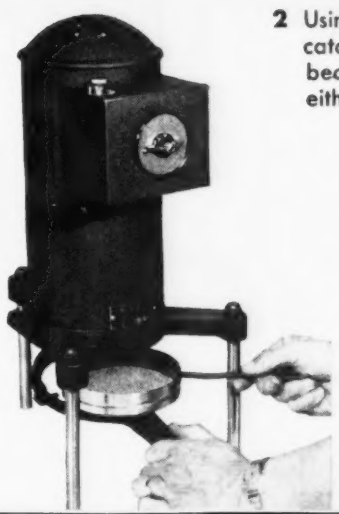

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3 The samples may be chemicals, liquids, sands, textiles, foods, tobacco, feed, wool, rubber, soap products, solids or fats in liquids and dairy products.

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NEWS ABOUT *Men* (Continued)

the only person who has headed both associations. He is chairman of the board of Arlington Mills with which he has been associated 59 years. He was one of the three civilian directors of the board of the Textile Foundation chartered by Congress in 1930 and has served as its chairman since its inception.

Otis M. Dunham, who has been associated with Wamsutta Mills, New Bedford, Mass., since 1906, has retired as assistant treasurer and director. Mr. Durham's retirement is in accordance with company's pension retirement plan. He will be available for consultation to management.

Charles B. Rockwell, Jr., is now on board of Goodall-Sanford, Inc., taking place of **William S. Nutter,** who recently resigned. Mr. Rockwell for many years was treasurer of Collins & Aikman Corp. He also operates worsted yarn mill of his own in Rhode Island.

John R. Crawford has been promoted from assistant treasurer to vice president, and **Camden Blades** has been elected member of board of directors of Rowan Cotton Mills, Salisbury, N. C.

U. L. Marion and **Donat Houle** have been elected to board of directors of Laurentian Silk Mills Ltd., Montreal, Que.

Hugh Ross has been elected a director and treasurer of Spool Cotton Co., New York, N. Y., succeeding the late James Dunlop.

E. Denton Coker has become superintendent of new plant of Textron Southern, Inc., at Hartwell, Ga.

H. H. Wolfe, who has been superintendent of carding at unit of Springs Cotton Mills at Lancaster, S. C., has accepted similar position with Martha Mills, textile division of B. F. Goodrich Co., Thomaston, Ga.

John Quitman Hill, who worked eight hours a day at Pacific Mills, Lyman, S. C., luring his undergraduate days at Wofford College, leaves soon to study medicine under a Rhodes Scholarship which he won in 1947. He is South Carolina's first Rhodes scholar in 18 years.

W. B. Hill has become plant manager of Abbeville Mills

S. C. VENEY is now manager of the Duplan Corp. Southern Div., with headquarters at Greensboro, N. C., overseeing the operations of five mills. Mr. Veney was for nearly 20 years a frequent contributor to *Textile World*.

Corp., Abbeville, S. C., succeeding **R. E. Edwards,** who has been appointed head of mills at McCormick, S. C., and Johnston, S. C., owned by Deering, Milliken & Co., which also owns the Abbeville plant. Mr. Hill was formerly with Pomona Mfg. Co., Greensboro, N. C.

Alexander Rose has been named plant engineer, **John W. Caulfield,** spinning-division superintendent; **Dr. Earl S. McColley,** chief chemist; and **George R. Clark,** superintendent of the textile division of Celanese Corp. of America, Celriver plant, Rock Hill, S. C.

Francis W. White has become resident manager of Wood Mills of American Woolen Co., Lawrence, Mass. He succeeds **Col. Vere Painter,** resigned.

A. Roy Ellis, of Moncton, N. B., has been appointed plant superintendent of Butterfly Hosiery Co., Ltd., Drummondville, Que.

J. W. Stanley, resident manager of Kennebec Mills of American Woolen Co., Fairfield, Me., has resigned, and **L. F. Kelley** from Mascoma Mills of American Woolen Co., Lebanon, N. H., succeeds him.

G. R. Stout has been elected assistant secretary and assistant treasurer of United Hosiery Mills Corp., Chattanooga, Tenn.

Basil Aldrich has become general manager of Hayward-Schuster Woolen Mills, East Douglas, Mass.

John J. Bosshard has been appointed assistant manager of

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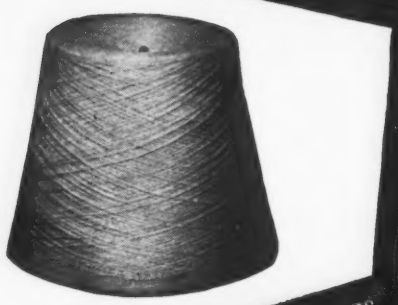

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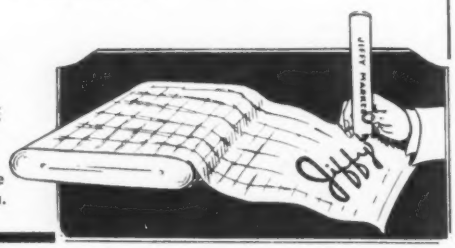

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GREENVILLE, SOUTH CAROLINA

NEWS ABOUT Men (Continued)

fabric development department of American Viscose Corp., New York, N. Y. Mr. Bosshard has been technician in department for last four years, working with **Walter E. Scholer**, recently appointed manager.

R. C. Grills has been made technical superintendent of new nylon plant of E. I. du Pont de Nemours & Co., Chattanooga, Tenn., which recently began operations.

Hazel M. Powell, formerly laboratory technician at Fieldcrest Mills, Spray, N. C., has been promoted to head physical testing department.

H. A. Sayles, formerly assistant general manager of Barre Wool Combing Co., South Barre, Mass., has become general manager of Cedartown Textiles, Inc., Cedartown, Ga.

W. M. Graham has been appointed manager of mill of Canadian Cottons, Ltd., Milltown, N. B.

Maurice H. David, formerly plant cost engineer of Maysville Cotton Mills, Maysville, Ky., operated by January & Wood Co., has been appointed general superintendent of plant, succeeding **W. O. Blanford**, who after 20 years as general superintendent has taken over position of technical adviser. Mr. Davis has been succeeded as cost engineer by **William C. Adair.**

Walter Dollard has been named general manager of Fort Worth Cotton Mills, Fort Worth, Tex. He succeeds **Jack Moses**, who has resigned to devote his entire time to West Cotton Mills, West, Texas.

Fred L. Walker has become associated with Clinton Cotton Mills, Inc., Clinton, S. C., as assistant to **Norman Meyers**, president. He was formerly with Springs Cotton Mills, Chester, S. C.

Stanley Adams, formerly rayon dyeing specialist for Tennessee Eastman Corp., Kingsport, Tenn., has become technical director and general manager of Sedgefield Fabrics Co.

Raymond K. Briden, has joined fabric development and designing staff of New York office of Dan River Mills, Inc. He formerly was with Lorraine Mfg. Co.

J. Callicott has joined staff of Claussner Hosiery Co., Paducah, Ky. He will specialize on quality control, efficiency improvement, and technical phases.

Wilton Todd, formerly manager of Mollohon unit of Kendall Co., at Newberry, S. C., and later manager of Pelzer unit of Kendall Co., at Pelzer, S. C., has retired from textile business and plans to enter another business of his own at Newberry.

William B. Calvert has been promoted to newly created position of plant manager of Portland Woolen Mills, Portland, Ore. He was previously superintendent in charge of manufacturing.

Dr. J. Horace Couliette has been named new technical director of Industrial Research Institute of University of Chattanooga, Chattanooga, Tenn.

G. R. Stout has been named assistant secretary and assistant treasurer of United Hosiery Mills Corp., Chattanooga, Tenn.

John S. Dickson, who has been plant engineer of Crown Mfg. Co., Pawtucket, R. I., has been promoted to director of engineering and purchasing for both Crown and Wamsutta Mills, New Bedford, Mass. **Clifton E. Allen** who has been superintendent at Crown Mfg. Co., will become divisional superintendent of both Wamsutta and Crown. Time of both men will be divided between two plants.

James B. McKinstry has become manager of Neponset Woolen Mills, Neponset, Mass., succeeding **John J. Warnke.**

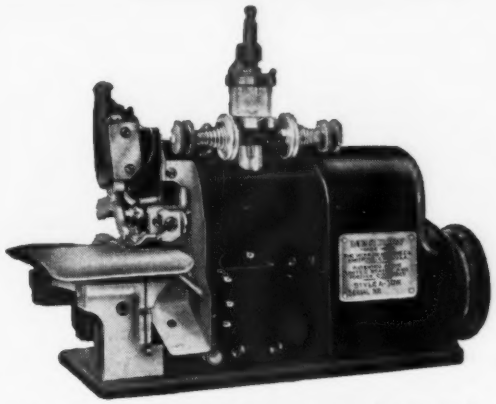
Morrison Orr has become general manager of Orr Felt & Blanket Co., Piqua, Ohio.

Leon R. Braiser has become night overseer of carding at Guilford Woolen Mills Co., Guilford, Me.

P. Camarata has become overseer of carding at Leonard, Guide & Guide, Hawthorne, N. J., succeeding **W. O. Eck**, resigned.

Jerry M. Cantoni, of Winthrop, Me., has become overseer of finishing for Alworth Woolen Mills, Duluth, Minn., succeeding **H. C. Davenport.**

Clarence W. Cashion has been appointed superintendent



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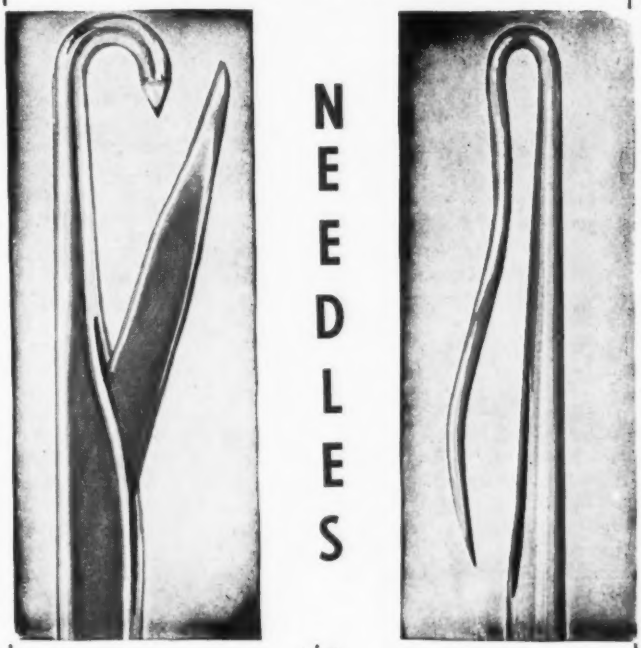

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NEWS ABOUT Men (Continued)

of plant of Delaine Worsted Mills, Gastonia, N. C., division of Associated Spinners, Inc. He will supervise manufacturing operations at new plant, which is engaged in spinning fine worsted yarn for knitted outerwear trade. Plant employs new "Delaine" system of spinning.

Dan Cobb, overseer of carding at Kennebec Mills, Fairfield, Me., has resigned.

A. H. Dallas, who has been superintendent of weave room of No. 1 and No. 2 units of Republic Cotton Mills, Great Falls, S. C., has been promoted to superintendent of Unit No. 1, succeeding **George M. Wright, Jr.,** resigned.

Harry Geisberg, assistant superintendent at Louisville Textiles, Louisville, Ky., has been promoted to superintendent, succeeding **H. S. Redman.**

OBITUARY

George Huguley Lanier, 68, president of West Point Mfg. Co. and Lanett Bleachery Dye Works, and one of the outstanding industrial leaders of the South, died Sept. 17 at his home in West Point, Ga. Mr. Lanier served as a director of the Cotton-Textile Institute, the Cotton Duck Association, the American Cotton Manufacturers Association, the Cotton Manufacturers Association of Georgia, the Alabama Cotton Manufacturers Association, Southern Bleachery & Print Works, Taylor, S. C.; Cabin Crafts, Inc., Dalton, Ga.; Wehadkee Yarn Mills, Rock Mills, Ala.; Continental Gin Co., Birmingham; and Textile Hall, Greenville, S. C. Mr. Lanier was a graduate of Philadelphia Textile Institute. He served as superintendent of Pepperton Cotton Mills in Jackson and in 1906 became vice president and general manager of West Point Mfg. Co., Lanett Cotton Mills, Riverdale Cotton Mills, Lanett Bleachery & Dye Works, and the Chattahoochee Valley Railway. He later was made president of the Textile Industries of the Valley, and of the Dixie Cotton Mills, of LaGrange, Ga. His father, the late LaFayette Lanier, was the leader in the founding of West Point Mfg. Co. in 1880, and served as its president until his death in 1910.

John K. Whitaker, 51, president of Neuss, Hesslein & Co., Inc., New York, died Aug. 25. With the firm for many years, he became its president in 1938. He was also president of Hesslein Co., Inc. and subsidiaries. He was a director of the Cotton-Textile Institute and the Association of Cotton Textile Merchants of New York.

Clifford D. Cheney, 71, Manchester, Conn., chairman of the board of Cheney Bros., died Sept. 6. Mr. Cheney was graduated from Yale in 1908 and has been associated with the Cheney firm ever since. He was a director of Pioneer Parachute Co., a subsidiary.

William A. Grant, Sr., 86, president of Rockingham Silk Co., Newmarket, N. H., died Sept. 4 in Exeter, N. H. He founded the textile concern in 1919 when he came to New Hampshire from Paterson, N. J.

Joe V. Moffitt, Sr., 65, Lexington, N. C., secretary-treasurer and part owner of Wennonah Cotton Mills, president of Dacotah Cotton Mill, and president and owner of Peerless Mattress Co., died Sept. 21.

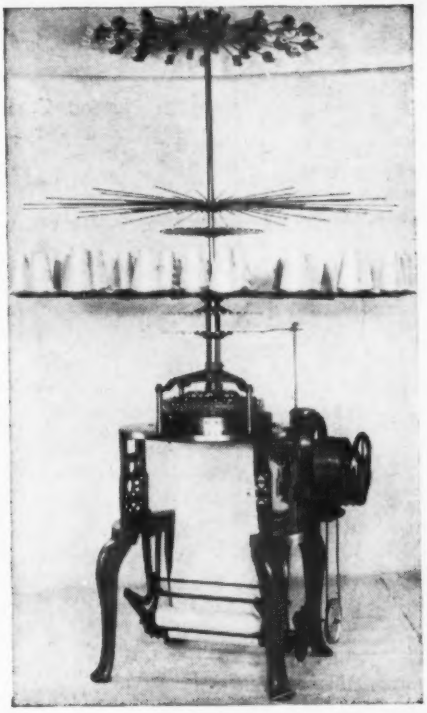
Edwin B. Litzkuhn, 61, president and general manager of Textolite Co., Maplewood, N. J., died Aug. 31. He established the Textolite Company 20 years ago.

Cecil C. Willis, Sr., 60, secretary-treasurer of Eagle & Phenix Div. of Fairforest Finishing Co., Inc., died at his home at Columbus, Ga., Aug. 23.

Edward J. (Ned) Gallagher, 52, secretary of North Carolina Finishing Co., Salisbury, N. C., died Aug. 27.

Emil W. Hanson, 55, treasurer of Fitchburg Spinners Sales Corp., Fitchburg, Mass., died Aug. 23. He was assistant treasurer of Fitchburg Yarn Co., Wachusetts Spinning Mills, and the Watatic Spinning Mill at the time of his death.

Alvah Rydstrom, 64, senior vice president and director of Cone Export & Commission Co., Inc., New York, agents for the Cone Mills, died Aug. 27. On Aug. 7, Mr. Rydstrom had celebrated his 50th anni-



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NEWS ABOUT *Men* (Continued)

versary in the textile industry. He was associated at one time with the old firm of Bliss, Fabyan & Co.

M. Whitin Whittall, 47, formerly associated with M. J. Whittall Associates, Worcester, Mass., died Sept. 13.

John H. Phillips, 74, secretary-treasurer of Providence Dyeing, Bleaching & Calendering Co., Providence, R. I., died Sept. 17.

James Dunlop, 48, treasurer and a director of Spool Cotton Co., New York, died Aug. 1, while in Albany, Ga.

Allen A. Roff, 67, secretary-treasurer of Roff Knitting Mills, Inc., Cohoes, N. Y., died recently.

William Portner, 50, died recently at Margate City, N. J. He was a retired partner in the Franklin Sweater Mills and a past vice president of National Knitted Outerwear Manufacturers Association.

Stephen T. Whittier, 84, for many years associated with Catlin & Co., New York, died Sept. 19. At his death he was vice president and director of Thomas Textile Co., New York. He was at one time assistant manager of Hamilton Mfg. Co., Lowell, Mass.

Frank J. Payan, 57, an associate of French Worsted Co., Woonsocket, R. I., for 39 years, died Aug. 28. He was vice president and director of National Association of Wool Manufacturers.

William B. Campbell, 60, professor of mathematics at Philadelphia Textile Institute, Philadelphia, and a lecturer on that subject, died Aug. 12.

Robert E. Lindsay, 58, district service manager for Saco-Lowell Shops at Charlotte, N. C., died Aug. 10.

Jesse B. Caldwell, 62, traffic manager at Burlington Mills plant in Cramerton, N. C., died Aug. 27.

Charles C. Jessen, 71, head of development and research at Beaunit Mills, Lowell, N. C., for the past five years, died Aug. 25.

William R. Booth, 78, a former head bookkeeper for Alexander Smith & Sons Carpet Co., Yonkers, N. Y., with which firm he had been associated for 52 years, died Sept. 4. He retired in February, 1946.

Dr. Newton C. Jones, 43, manager of Niagara Falls plant of Electrochemical Dept. of E. I. du Pont de Nemours & Co., died Sept. 14. He became assistant manager last year and manager in January.

Ludger Eickhoff, a retired wool expert, died Sept. 20. For ten years he was employed by Forstmann Woolen Co., Passaic, N. J., and for 20 years by Botany Mills, Inc.

Daniel J. Shea, 65, died recently. He was a textile chemist for Hans C. Bik, Inc., Reading, Pa.

Will R. Tanner, for many years secretary of Gaffney Mfg. Co., Gaffney, S. C., until his retirement, died Sept. 24.

John O'Brien, division manager of Chicago industrial sales for the Colgate-Palmolive-Peet Co., New York, died Aug. 29. He had been employed by the Colgate-Palmolive-Peet Co. for 21 years.

A. L. Hayes, 58, metropolitan New York representative of the Laurel Soap Mfg. Co., Inc., Philadelphia, for over 26 years, died Sept. 15, in Weehawken, N. J.

John J. Jarbeau, 47, a former production manager of Esmond Mills, Smithfield, R. I., died Aug. 27. Mr. Jarbeau had been associated with the mill for 26 years until its recent closing.

Charles A. Hull, 71, retired finishing plant agent died Aug. 29. Before his retirement in 1938, he had been with the New York office of Mount Hope Finishing Co., North Dighton, Mass., for 30 years. He had at one time been associated with the Silver Springs Bleachery, and Union Bleachery. Mr. Hull, with his brothers John Hull and William Hull, control the Victor Ring Traveler Co., Providence, R. I.

Col. Patrick H. O'Malley, 93, who was an overseer at the old Amoskeag Mfg. Co. in Manchester, N. H., for 56 years, died in that city after a short illness.

Robert J. Keeler, 58, superintendent of Royal Spinning Mills, Lowell, Mass., died Sept. 20. He was a graduate of Lowell Textile Institute.

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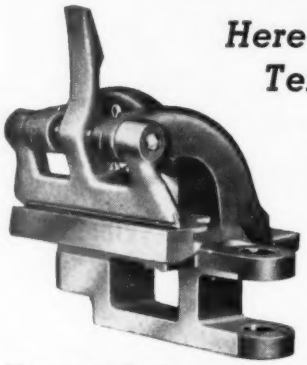

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SEE THEM 10 DAYS FREE!

1. COTTON LOOMFIXERS' MANUAL

By IVAR MOBERG, Instructor in Weaving, Loomfixing and Designing, Nashua Manufacturing Company, Instructor at Lowell Textile School

197 pages, 6 x 9, 108 illustrations, $2.75

Here are detailed instructions on the practical setting, adjusting, and timing of modern looms. Step-by-step, this guide gives you instructions on all phases of cotton loomfixing. If you want a complete course in loomfixing, or only a refresher to broaden your knowledge and increase your skill COTTON LOOMFIXERS' MANUAL will fit your needs to a "T". In this one book you get complete coverage of important subjects such as: left-off, harness, picking, warp-stop, filling-stop, and protector motions; loom construction; filling feelers; cutters; box multiples; shuttles and many others.

2. RAYON TECHNOLOGY

Handbook for Textile Mills

By the Technical Research Department of American Viscose Corp.

273 pages, 81 illustrations and tables, $3.75

Seventeen experts in the field show you the best ways of processing rayon on your own mill machinery. This handbook discusses actual working conditions . . . shows how best to use equipment; analyzes the specific problems likely to arise in using rayon staple, and brings you practical methods for solving them. It covers winding, throwing, warping, slashing, quilling, and weaving operations, in all divisions of the industry. RAYON TECHNOLOGY discusses the construction of rayon fabrics, both those made of continuous filaments, and those made with continuous filaments supplemented by spun yarns . . . everything you want to know about processing rayon.

3. STAPLE COTTON FABRICS

Names, Descriptions, Finishes and Uses of Unbleached, Converted and Mill Finished Fabrics

By JOHN HOYE, Instructor New York Textile Evening Trade School

241 pages, 6 x 9, fully illustrated, $4.00

Here's an encyclopedia of staple cotton fabrics showing you how to identify these fabrics, how to make them, how to finish them, and how to use them. It's an authoritative reference manual of specific trade and technical information on staple American cotton fabrics—designed for use by all concerned with the manufacture, sales and use of these goods. STAPLE COTTON FABRICS covers all types of cotton fabrics . . . unbleached, converted, and mill finished . . . used in garment manufacture and industrial trades. It gives you trade descriptions, illustrations, details of construction, yarns, weaves, etc.

4. PRINCIPLES OF KNITTING

by MAX C. MILLER, Designer and Inventor of Knitting Machines and Fabrics

234 pages, 6 x 9, 193 illustrations, $4.50

Principles involved in the production of knitted fabrics; descriptions of the mechanisms used; and the various garments produced are covered in this practical guide. PRINCIPLES OF KNITTING describes in detail: circular and flat machines, regular and warp fabrics, the principles underlying the various loop structures, their application in various types of machines from earliest days down to the present. Illustrations spotlight the features and important facts about these topics. With this book as a guide you'll gain a clear understanding of the design, uses and advantages of present day knitting machines.

5. FUNDAMENTALS OF SUCCESSFUL MANUFACTURE

by GEORGE GAYNOR HYDE, Consulting Engineer

201 pages, 5¾ x 8¾, 21 illustrations, $3.00

Here are suggestions, techniques and case studies of manufacturing fundamentals. An ideal, step-by-step guide to help you organize a new business or modernize an existing one. The manufacturing executive will gain from this one book a wealth of practical methods and considerations needed to achieve better organization and output. FUNDAMENTALS OF SUCCESSFUL MANUFACTURE covers such processes as designing and processing the product, housing the enterprise, personnel practices, management controls, etc.

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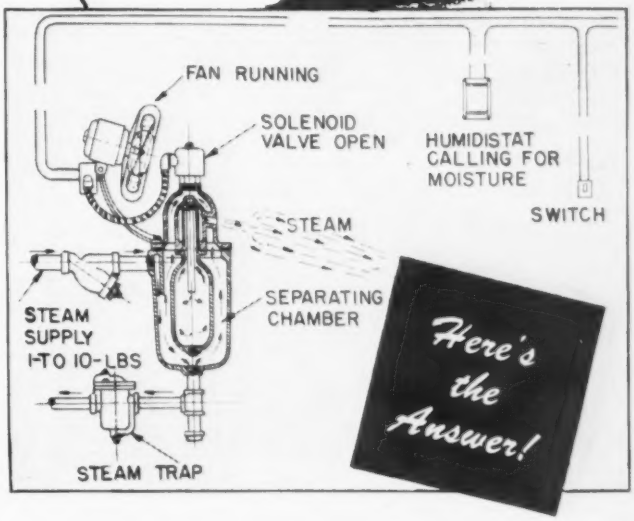

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FOREMAN—TRICOT plant, Englewood, New Jersey. High speed Reiner Tricot machines. Experience in rayon and nylon underwear cloth desired. Excellent opportunity. Write full particulars. P-6850, Textile World.

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LEADING TEXTILE Machy. Mfg. has opening for Southern representative calling on dye houses and wet processing mills, drawing account against commission. RW-6758, Textile World.

POSITIONS WANTED

POSITION WANTED: Overseer of dyeing middle-aged, married, experienced on wool and rayon. PW-6287, Textile World.

(Continued on page 328)

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Prior experience in textile mill or textile selling or merchandising organization, with some latitude for developing new ideas into fabrics needed to qualify. Experience may be in wool, synthetic or cotton textiles. Primary requirement, in addition to technical experience, is creative imagination and ability to adapt ideas and to utilize textile fibers and yarns. Prefer younger man who has had several years experience in position of increasing responsibility, who is interested in opportunity to develop himself along technical and managerial lines, with a view to qualifying ultimately for a position of major responsibility. College engineering or textile school background desired. Indicate limitations, if any, as to locations where willing to work, salary expected, and also give detailed statement as to prior experience in the textile industry. Enclose snapshot or passport photo.

P-6772, Textile World
330 West 42nd St., New York 18, N. Y.

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SECOND HANDS FOR FOLLOWING DEPTS: woolen dyeing; woolen and worsted weaving; woolen and worsted finishing; woolen and cotton carding; cotton and rayon slashing.

SALESMEN to sell textile machinery, chemicals, supplies, soaps, twisting machinery, etc.; chemists and laboratory men for textile mills, also firms manufacturing chemicals; textile machinery designers and draftsmen; textile research chemist with textile school education for selling and demonstrating; woolen finisher to demonstrate and sell chemicals.

MASTER MECHANICS and plant engineers; expert loom builder to change cotton looms to carpet; garnett foremen and fixers; foreman Kornet machines; mule fixers; hosiery-underwear mill knitting machine fixers; finished goods percher; loom fixers; several sewing machine fixers; slasher tenders.

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SHEBOYGAN, WIS.

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1—18' Rusden Ager, 52" max. cloth width, with hot water heater, motor drive
1—72" C & M 2-cylinder Brushing machine
1—39" Textile 5 Roll Calender
1—41½" Knit goods calender stainless steel rolls with motor Reeves drive
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1—50" 3-roll Textile Hydraulic Calender, with pump and accumulator, motor driven.
1—80" Butterworth 6 Bowl Calender, 3 Cotton, 3 Brass Rolls
1—60" V.V.I 3-cyl. Silk Calender
12—40" Lowell cards, 27" Doffers, 12" Coilers
5—C&M Flock Cutters
3—48" D&F Rub Condensers, Double Bank, Double Apron with Spool Racks

All "Certified"

1—54" x 60" D&F 2-cylinder iron shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
1—60" Windle 3C Doubler, motor drive
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set of 31-40" face Butterworth Dry Cans
1—Set of 21-59" face Vertical Copper Dry Cans with motor, Reeves drive.
1—96" P&S Loop Dryer
2—20 delv. Lowell & Saco Petee Drawing Frames 12" coilers
3—48" V. VI. Stainless Steel Dye Jigs Motor driven
1—Raw Stock dyeing equipment with 4-1000± Morton Dyeing Machines, Blowers, Feeders, Dryers, etc.

All "Certified"

1—Set 8 Textile Vertical 48"x23" Copper Dry Cans
1—36' P&S Loop Dryer width 8'
1—36" C&M Duster
1—7' D&F Iron Cone Duster with Feeder
1—18" Copper Basket Extractor
1—26" Tolhurst Extractor, belt driven
1—32" Tolhurst Copper Basket Extractor
2—48" American Humatic Extractors with Copper Baskets, Motor driven
3—60" Tolhurst Copper Basket Extractors

All "Certified"

3—10", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
100—40" Draper Model K 20 Har Dobby Looms
99—45½" reed space Model E Draper Automatic Looms with hacey tops 3 bank stop motions, warm take-up, belt driven

PRINTING EQUIPMENT

2—New 60" R. B. F. 6 Color Printing machines suitable for large pattern work
2—New 50" R. B. F. 12 Color Printing machines
1—Used 64" R. B. F. 8 Color Printing machine
1—Used 54" Werner Single Color Printing machine

68—43" r.s. Draper Model X Looms, with 39" sand rolls, Brown 4-harness tops, motor driven
1—48" C&K 4 x 4 box Loom, 25 harness, belt driven, friction clutch
21—54½" C&K Box 20 & 25 Harness Dobby Looms
2—74" Heavy Duck Looms, roller top
14—82" C&K 2 x 1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2 x 2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4 x 4 Box Looms, 25 harness, belt driven
20—C&K 22' Ribbon Looms with intermediate gem heads, belt driven

All "Certified"

75—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder
1—66" Gessner 16 roll single cylinder Napper
1—72" Gessner 18 roll single cylinder Napper
1—72" P&W 20-roll Double Acting Napper.
3—80" D&F 20 roll single and double Acting Nappers

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

* 3—Six to Fourteen Set Woolen Yarn Mills
* A Woolen Piece Goods Finishing Plant
* 3—Worsted Units
* 6—Cotton Mills 3,000-100,000 Spindles 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment
* 1—Novelty Yarn Plants
* 1—Twine Manufacturing Plant

All "Certified"

3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—70" King & Gerber Tubing Machine with Veeder-Root counter
2—240 SP.J. & B. 1⅞ Ga. Mules
1—392 Spindle Smith 2" Gauge Mule
2—240 Spindle J & B 2" Gauge Mules

All "Certified"

1—30 x 30" Mezerra Wool Opener
1—'8" D&F 2-Cyl. Wool Opener with Feeder
1—40" H&B Single Process Picker with Eveners, Kirschner Beater, Ball Bearing Beaters with Condenser
9—10" Kitson Breaker Pickers, Finisher Pickers and Single Process Pickers, motorized
1—48" C.D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—86" Voelker Press Motor Dr.
6—52", 65½, 66, Voelker and Gessner Single and Double Bed Rotary Cloth Presses
4—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Pin Type Reels, with creel, back stand, neck reed, warp reel beamer and warp compressor
3—60" P&W Single Blade Woolen Shears
1—50" Hermas Shear with C&M Stitcher

All "Certified"

1—66" Parks & Wilson single Blade Plush Shear
11—66½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½ P&W Single Blade Shears
2—Cameron Model 26 Slitters, motor driven
1—42" Firsching 20-knife Slitting Machine
2—Lowell 2 cylinder Slashers
1—40' Textile Clip Tenter, 60" opening with Housing
1—40' Hoey Clip Tenter, 60" opening with Housing
1—90' W & J S/S Clip Tenter, 102" opening with Housing
1—40' Kenyon Pin Tenter, 42" opening
7—70' Kenyon Pin Tenter, 46" opening

All "Certified"

1—60" C&M Single Brush type Tiger
1008 SP. S.L. 3" Ring Band Driven Twisters
96 H&B 4½" Ring Tape Driven Twisters
3—80 Spindle Hopedale Band Driven Twisters 4½" ring, 5½" ga. Belt driven
1—210 spindle Draper Twister, 2" ring
2—8-string Hemmer Wool Washers
7—100 Sp. Foster Model 12 12A-21A Tube & Cone Winders
1—90 Sp. Foster Model 30 Cone Winder

MANY OTHER UNITS WITH PROFITABLE PRODUCTION POSSIBILITIES. PLEASE OUTLINE YOUR REQUIREMENTS. SEND FOR COMPLETE DETAILED LIST OF MACHINERY FOR SALE.

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1—Sargent Raw Stock Dyer, 72".
1—Kettling & Braun 72" Semi-Decater, complete with pumps and blanket.
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1—Butterworth 3-roll 50 " Dye Padder.
2—Rodney Hunt Piece Goods Dye Kettle
1—Sheridan Press, 60" x 24" Plate.
1—Van Vlaanderen 60" Ball Bearing Calender.
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15—Whitin Spinning Frames, 264 sp.
42—Draper 80" 16-harness Looms.
1—Cocker Ball Warper.
1—Franke Willow Machine.
1—Draper Spooler, 100 spindles.
18—C & K 4 x 1 84" automatic Looms.
2—Hunter Double Cylinder Wool Openers.
1—H & B Yarn Conditioner.
2—Sets Squeeze Rolls, 44" x 18".
1—Reiner Tricot Warper, 300 pin Creel, 288 aluminum beams. (one year old)
2—Whitin Tricot Machines (1945)
1—Smith Furbish All Iron 60" Card with tape condensor.
1—Rice Barton & Fales 50" Print Machine single color.

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2—Sargent 42" Picker Feeds
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1—Hunter 3 cyl. 30"x48" b.b. Garnett
1—Hunter 7 section Raw Stock Dryer
1—D. & F. 7' all iron Cone Duster
1—C. & M. Parkhurst 48" Burr Picker with Feed
1—S. F. 36" Lumper, b.b.
1—Sargeant 48" Rag Duster
1—Clark 46", 12 bar Mixing Picker (new)
5—Schofield 18"x30" Waste Pickers
1—Schofield 42" Carding Rag Picker
2—Schofield 48" automatic Dusters (Box)
1—C. & M. 48" Fearnaught Mixing Picker
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1—O. L. #20 High Speed Cop Winder Universal #50 and #90 Winders rebuilt to order
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1—Whitin 378 sp. Quiller, 2½" gauge
3—J. & B. Jackwinders
2—Altemus Pinless Warpers, rebuilt to order
3—Altemus Long Chain Beamers
1—Worcester Cone Creel, elec. stop motion Magazine type, 176 active ends
20—Draper Mod. D 69½" reedspace Looms
10—C&K 82"-92" 4x4 box Looms, Mtr. Dr.
2—L. & G. Chenille Cutters, rebuilt
1000—2" Herr Conical Rings with Holders new
75,000—8" automatic Loom Bobbins
1—Hunter No. 10 Fulling Mills
2—Rodney Hunt Slack Washers
3—Tolhurst Mtr. Dr. Extractors 72" to 96" baskets
1—Fletcher 60" M. D. Extractor
1—Butterworth Bleach House Squeezer
2—Sets Squeeze Rolls, 11' long, 6½" dia.
10—Halton 1304 Hook Jacquards
1—C&M 60" Power Perch
1—C&M 170" Rolling Teasel Gig
1—P&W 66" Double Cloth Shear
2—P&W 66" Plush Shears
1—Gessner 66" Heavy Duty Press
1—Perkins Cloth Piler 72" Trav.
4—Hermas, Werner Mtr. dr. Inspection Tables, 72"-96" wide
1—P&W 72" Rolling Measuring & Doubling Machine
1—P&W 66" 4-cyl. brush and Sander
1—K&B 72" Full Decator
2—Sturtevant No. 2 Pumps Lewellen & Reeves Drives
3—Emerson Conditioning Ovens
1—Brown Yarn Strength Tester

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300,000—K.A. Electric—(5¼" x ¾) Worsted
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700,000—Regan—#135 & 135½"

WORSTED SPINNING

10,431—Spindles, 20½"—17" Blade—7/16" Dia.
3,000—Caps, Straight—6¼" i.l. x 2 1/16" i.d.
10,000—Tubes, 7⅜" x 1" Whorl, 7/16" Dia. Spd.

RINGS

480—Twister Rings (Eadie) 4".
6,100—Twister Rings, Vertical—3"-4".
600—Flange Rings—2½".
50,000—Cotton Spin. Rings & Holders.

BOBBINS

25,000—Automatic 8" (Oil Finish).
500,000—Automatic 8¾".
20,000—Wors. Spin. 9" o.a. Base 1¾".
16,000—Wors. Spin. 8¾" o.a.—Cone Base Dia. 1¾".
8,000—Fibre Head Spools—3⅜" x 2½" Hd.
1,300—Jack Spools, 32¾ x 10".
600—Slubber Bobbins, 12 x 6.
15,000—Wood Winder Cones, 6¾" o.a. x 2⅝".

MISC. SUPPLIES

130—Pr. Wors. Split C.I. Flanges, 18"-22"-28". Two Shift Pick Clocks.
Lot Dutcher Temples.
Lot Metal Dobby Chain Stock.
Lot Gill Box Fallers—18¼" & 22⅝" L.

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2—New 64" Beamers, Motor Driven
1—New 64" Tuber & Meas., Motor Driven
2—Extractors, 26" & 48", Motor Driven
3—Meas. & Inspection Machines, Motor Driven
1—Set 20 Cans 80" Copper
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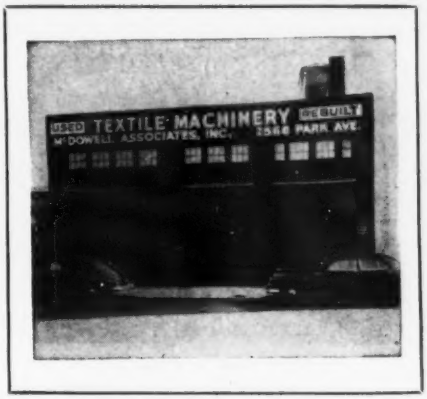

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DYEING AND FINISHING

3 BATCHERS, 48", 50" and 60".
1 P&W WET BRUSH, 2 cyl. 66".
1 C&M 6 roll Vertical BRUSH 50".
1 C&M CALENDER ROLLING HEAD 48".
1 GRANGER 3 roll FRICTION CALENDER, 43½".
1 TEXTILE 3 roll CALENDER, 100".
1 VERDUIN HYDRAULIC CALENDER, 2 roll, 60".
1 HUNTER PIECE CARBONIZING UNIT
2 P&W DOUBLERS, 66"—72".
1 HACKNEY DOUBLER and FOLDER 72".
1 CAN DRYER, 21 copper cans, 101" x 23" dia.
1 CAN DRYER, 6 copper cans, 72" x 36" dia.
1 P&S LOOP DRYER 84", housing air fin heaters.
1 KENYON PIN DRYER, 44"—84" width, complete.
1 P&S SKEIN 2 truck DRYER
1 R.H. enclosed 6' stainless steel DYE KETTLE.
1 SMITH-DRUM SKEIN DYEING MACHINE, 22 arm.
1 K-W SKEIN DYEING MACHINE, 28 stick.
6 EXTRACTORS, 26"—60".
1 GESSNER VACUUM EXTRACTOR 78".
4 E. & H. FOLDERS, 40"—70".
1 HUNTER FULLING MILL, #20 double compartment.
4 C&M INSPECTING AND WINDING MACHINES, 58".
1 MANGLE, 3 rubber rolls, 120".
1 ROY NAPPER GRINDER, 120".
1 P&W MEASURING MACHINE 42'.
3 WOONSOCKET NAPPERS S. A. 14 roll, 72", 80" and 90".
1 D&F NAPPER, D. A. 24 roll, 80".
1 D&F NAPPER, D. A. 36 roll, 80".
1 D&F NAPPER, D. A. 24 roll, 86".
2 RODNEY HUNT PADDERS, new, 66"—84".
1 VAN VLAN. PALMER, 64" x 60" dia. cyl. motorized.
1 VAN VLAN. PALMER TENTER QUETCH UNIT, 50".
9 POWER PERCHES, 90", forward and reverse treadle.
5 LUTHER 2 brush THREAD POLISHERS.
3 ROTARY STEAM PRESSES, 66½"—68" double bed units.
1 REEVES new #3 DRIVE.
3 C&M RAILWAY SEWING MACHINES, 40" —66".
9 SHEARS, single-double blde, 45"—66".
1 P&W DAVIDSON 66" single HIGH SPEED SHEAR.
1 P&W TEASEL GIG, 2 cyl. 66".
1 P&W 4 blade 60" PICKING SHEAR
1 R&L SQUEEZE SET 72".
1 P&W 4 blade 60" PICKING SHEAR.
1 R&L SQUEEZE SET 72".
1 GRANGER SQUEEZE SET, 2 roll 48".
2 C&M CLOTH WINDERS 42"—50".
1 SARGENT SCOURING UNIT, 5 bowl, 48", with Feeds, Opener & Dryer.

CARDING AND SPINNING

1 D&F new FLYNN CARD CLOTHING TENSION MACHINE, 60".
1 D&F iron Wool CARD 48" x 60", 4 cyl. TAPE CONDENSER.
1 D&F iron Wool CARD, 48" x 48", ring doffers.
10 S.A.C.M. 2 cyl. WORSTED CARDS, 60".
3 WHITIN CONDENSERS, tape, 48", 4 bank, 96 ends each.
3 SOUTEX CONDENSERS, tape, 60", 4 bank, 108 ends each.
1 Alsace FRENCH DRAWING, Intersecting Gills thru Porcupine Heads.
2 FEEDS, Picker 40"—54".
4 FEEDS, Bramwell, 60" cards.
1 ROY new 60" TRAVERSE GRINDER
8 D&F MULES, 360 spindles ea., 2½" gauge, 14" bobbin.
5 J&B MULES, 360 spindles ea., 2¼" gauge, 8" bobbin.
2 J&B MULES, 288 spindles ea., 2⅛ gauge, 8" bobbin.
2 SCHIMMEL MULES, 480 spindles ea., approx. 1¾" ga., 8½" cop.
1 C&M BURR PICKER, 48" double cyl.
1 SARGENT duplex BURR PICKER, 48".
1 CLARK MIXING PICKER, 48", ball bearing.
1 C&M FEARNAUGHT PICKER, 48" x 48".
1 Butterworth RAG PICKER, 20" x 30", b.b. cyl.
1 WHITIN ROVING FRAME, 80 spindles, 8 x 3½.
1 WHITIN ROVING FRAME, 100 spindles, 8 x 3¼.
5 WHITIN MODEL A SPINNING FRAMES, 3" ring, 4½" ga., 192 spdls. ea.
1 WHITIN SPINNING FRAME, 48 spindles, 3" ring.
1 WARP COMPRESSOR SPOOLER, Model M, H.S. 48".
1 WHITIN TWISTER, 40 spindles, 5½" gauge, tape drive.
3 H&B TWISTERS, 4½" gauge, 156 spindles ea., band drive.
2 F&J TWISTERS, 5½" gauge, 100 spindles ea., tape drive.
8 S-L TWISTERS, 5½" gauge, 120 spindles ea., tape drive.
1 WHITIN Spiralwhorl BUCKLEY CLEANER, cyl. 64".
1 TERRELL BOBBIN CLEANER, type K, motorized.
22 D&B COTTON CARDS, 40".
60 WARP COMPRESSOR CREELS, 432 spindles each, 6" centers.
1 PLATT ROLLER TOP CARD, 50".
2 WHITIN INTERMEDIATES, 9x4½, 112 spindles each.
1 H&B single process PICKER, 1926 model, 40" width.
4 REELS, adj. 54"—72" skein.
1 S-L ROVING FRAME, D-2 Ld. 8x4, 152 spindles.
2 S-L SLUBBERS, Ld. 10x5, 96 spindles ea.
4 WOONSOCKET SLUBBERS, Ld. 10x5, 96 spindles each.
4 S-P. SLUBBERS, J-1, Ld. 9x4½, 100 spindles each.
18 WOONSOCKET SPEEDERS, J-1, Ld. 8x4, 128 spindles each.
13 S-L. SPEEDERS, 8x3½, 160 spindles each.
4 WOONSOCKET SPEEDERS, J-3, Ld. 8x4, 152 spindles each.
12 S-L. SPEEDERS, J-2, Ld. 7x3½, 160 spindles each.
30 WHITIN SPINNING FRAMES, 3" gauge, 252 spindles ea., band drive.
6 WHITIN SPINNING FRAMES, 3½" gauge, 216 spindles ea., band drive.
12 WHITIN SPINNING FRAMES, 3" gauge, Ld., 228 spindles ea. tape drive.
1 B-C. TYING MACHINE, Model E, 108" bed.
5 SIPP-EASTWOOD WARPERS, 85", 3248 end creels, motorized
1 COCKER BALL WARPER, V Creel, 520 tubes.
1 COCKER DENN WARPER, 1215 end Creel.
1 COCKER H. S. WARPER, 54", 560 end magazine Creel.
4 B-C. HIGH SPEED WARPERS, h.w. model, 432 end creels.
1 FIDELITY BOTTLE WINDER, 15 spindle, 1945 model.
2 FOSTER WINDERS, Model 12, 60 spindles ea., skein attachments.
1 FOSTER WINDER, Model 101, 40 spindles.
2 ABBOTT WINDERS, 80 spindles each.
2 FOSTER WINDERS, Model 30, 100 spindles each.
1 UNIVERSAL #44 ROTO CONER, 120 spindles.

WEAVING

104 C&K LOOMS, 52", S-5, 2x1 automatic, 20 harness dobby, b.b. crankshaft and clutch, motorized, 550 volt.
18 C&K LOOMS, 68", 4x4 box, 20 harness dobby, roller bearing, temples, center feeler motorion, Roper letoff, 6 bank EWSM, pick counters, motorized, 220 volt.
4 C&K LOOMS, 82" 4x1 automatic, 25 harn., temples, pick counters, friction runoff motion, motorized, 550 volt, AC motors.
20 C&K LOOMS, 82", 8 harn. cam, temples, multipliers, ratchet takeup, friction runoff motion, mechanical warp stopmotion, pick counters, motorized, 550 volt.
100 C&K LOOMS, 82", 4x4 box, 25 harn., intermediate worsted heads, worm takeup, 2x1 gearing, temples, center filling fork, 4 bank EWSM, 3 shift pick counters, motorized, 220 volt.
4 C&K LOOMS, 4x4 box, 25 harn., EWSM, ratchet takeup, temples, motorized, 220 volt.
16 C&K LOOMS, 92", 4x4 box, 30 harn. EWSM, temples, motorized, 550 volt.
8 C&K LOOMS, 100", 4x4 box, 25 harn., temples, belt driven.
132 DRAPER E LOOMS, 40", 5 harn., 24 bobbin battery, midget feeler, friction letoff, mechanical warp stopmotion, belt driven.
20 DRAPER MODEL E LOOMS, 40", 16 harn. dobby, Roper letoff, ratchet takeup, feelers, motorized, 220 volt, 3 phase, 60 cycle.
144 DRAPER E LOOMS, 40", 5 harn., feelers, cutters, Roper letoff, belt driven.
56 DRAPER K LOOMS, 48" B.S., 6 harn., cam, 4 bank EWSM, worm takeup, feeler, friction letoff, motorized, 220 volt, AC motors.
18 DRAPER K LOOMS, 52" reed space, 5 harn. cam, Stafford cutters, rayon temples, friction letoff, 4 bank EWSM, motorized, 220 volt AC motors.
54 DRAPER XP LOOMS, 60", Brown double action top, 6 harn. cam, thread cutters, Roper letoff, 6 bank EWSM, motorized, 550 volt.
34 DRAPER HOPEDALE LOOMS, 60½" reed space, 16/20 harn., temples, feelers, worm takeup, friction letoff, belt driven.
32 DRAPER MODIFIED D LOOMS, 70" reed space, mechanical stop, feelers, pick counters, 2 harn., roller top, belt driven.
24 DRAPER MODIFIED D LOOMS, 80½" reed space, 2x1 box automatic, 20 harn., center filling fork, motorized 550 volt.
24 DRAPER D LOOMS, 90" reed space, cam head, 4 harn., 20 bobbin battery, motorized, 550 volt, A.C. motors.

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SEARCHLIGHT SECTION

DYEING AND FINISHING

1—Tenter Frame, 90'x100", with housing
1—Set 8 Copper Dry Cans, 72"
1—P&W Napper, 62' face
8—Dye Becks, 12'-14' long, with reels
1—National Loop Dryer, 84' wide
1—Van Vlaanderen Tuber, 50" motor
1—Friction Calender, 3 rolls, 50"
4—Cottage Steamers
6—Morrison Dye Jiggs, 50"
1—Set 42 S.S. Dry Cans, 50"
1—Hercules Extractor, 60"
1—Smith-Drum Rotary Dye, 100 lbs.
1—Hydraulic Calender, 3 rolls, 60"
1—P&S Skein Hurricane Dryer
1—Van Vlaanderen Calender, 3 rolls, 46⅓"
1—Woonsocket Napper, 36 rolls, 50"
1—Werner Palmer Quetsch Unit, 48" width
1—P&S Loop Dryer, 50' long
1—Morrison Rayon Calender, 50"
1—Grand Rapids 3 roll Steam Calender
1—K&G Embossing Calender
1—Butterworth Calender, 3 bowl, 50"
3—John Hope Pantograph, 51" width
1—Butterworth Hydraulic Baling Press
1—Rotary Plate Singer, 50"
1—Color Kettle, 30 gal.
1—Van Vlaanderen Padder, 50"

COMPLETE MILLS

Print Cloth Mill—17,000 spindles
Cotton Spinning & Weaving, 15,000 spindles, 400 looms
Cotton Spinning & Weaving, 12,200 spindles, 300 looms
Cotton Spinning, 3,500 spindles
Worsted Spinning, 3,500 spindles
Worsted Mill, 5,340 spindles
Woolen Mill, 1,200 spindles, 20 looms
Woolen Spinning, 1,600 spindles

WEAVING

110—Draper Hopedale Rayon, 40"
200—Model E Draper, 47½" r.s.
24—Draper 82", 2x1 box
24—C&K 82", 2x2 box
12—C&K 82", 4x4 box
20—C&K Narrow Fabric, 42 space
50—C&K 46", 4x1 box, automatic

TEXTILE PRINT MACHINES
RICE, BARTON AND FALES
6-8-12 COLORS

OPENING, CARDING, AND SPINNING

1—Saco-Lowell Vertical Opener
1—Jenks Mixing Picker, 30"
8—Kitson Feeder Hoppers, Model F-2
1—P&S Double Doffer Garnett
1—Butterworth Hydraulic Baling Press
2—Worsted Cards with Gill Box
3—Furbush Cards, 48x60
1—D&F 46x48 Wool Card, iron
50—H&B 45" Cards
27—H&B 40" Cards
4—Saco-Lowell Jack Spoolers
1—Model M.H.S. high speed Spooler
35—H&B Spinning Frames, 256 sp. 3" ga.
24—F&J Spinning Frames, 216 sp. 3" ga.
4—Whitin 7x3⅓ Roving Frames, 176 sp.
2—Saco-Pettee 10x5 Roving Frames, long draft
2—J&B Mules, 360 sp. 2¼" ga.

WINDING

12—Universal Winders #90, 20 sp.
2—Foster Winders #12, 40 sp.
3—Saco-Lowell Lap Winders, 9"
2—Foster Winders #101, 80 sp.
3—Staubli Cap Winders
1—Foster Winder, 50 sp. tubes

REMEMBER
Republic Textile
EQUIPMENT COMPANY
40 WORTH STREET NEW YORK CITY
Purchase and Sale of Used Machinery
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

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1—3 Roll 45" Motor Driven Quetch
1—40' 60" Winsor & Jerauld Tenter Frame, complete.
1—V. V. 66" Palmer unit, complete with Quetsch and Tenter Frame
2—V. V. 54" Embossing Frames, No. 1 and No. 2 Patterns
2—50" Werner Dye Jiggs S. S. lined.
2—58" Morrison enclosed gear copper lined Dye Jiggs
2—54" General enclosed gear S. S. line Dye Jiggs.
1—Set of 9—20" x 60" Heavy Steel Dry Cans.
1—Set of 6 copper cans, vertical, Reeves & motor.
1—Set of 7 copper cans, horizontal, Reeves & motor.
1—Set of 3 copper cans, 36" diameter by 60" face.
1—50" V. V. Button Breaker
1—48" Tolhurst Centrifugal Self Balancing Extractor, with motor on side.
1—36" motor driven self balancing Hercules Extractor.
1—60" V. V. M.D. Horizontal Extractor
2—60" motor driven beamers.
3—60" M.D. Tubing & Measuring Machines.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
60-80 gallon stainless steel steam jacketed Kettles
30-60 gallon copper Steam Jacketed Kettles
2—motor driven 84 spindle Fletcher Duplex Machines
1—Knapp Direct Ribbon Warper
3—No. 50 Universal Coners
1—U. S. 7½ H. P. Vari-drive
1—Sterling 7½ H. P. Vari-drive
1—Reeves 7½ H. P. Vari-Drive
2—2 HP P.I.V. Vari-Drive
About 5,000 S. S. high speed V. V. Clips
Agitators of various sizes
Motors of various sizes.
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8—200 spindle C-type individually Motorized, 3 phase, 220 volts, 60 cycle. Excellent condition. *Brand new Aluminum headed bobbins with this equipment.*

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1—LYDON All Electric Steam Box—200 LB. Capacity.

3,000 Brugger Swifts—Adjustable for Silk or Rayon.

50,000 1 LB. Redraw Fibre Spools 3⅝" Fibre Head, 5" Traverse, 2" Barrel.

30,000 1 LB. Steaming Shafts 4½" St. Steel Head, 4⅜" Traverse, 2" Barrel.

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1 KNAPP DIRECT WARPER Hi-Speed Up to 18" Beam

Completely reconditioned with Reed Stand. Individually motorized with 2 H.P. 220 volts motor. Electro bars and automatic stop motion attachment. Can be run from magazine cone creel or V creel. Creel available.

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Individually Motorized, Bunch Builders. Excellent condition.

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1,000—12" head, 10½" trav.
500—12" head, 18½" trav.
600—10" head, 3" trav.
2,000— 9" head, 2" trav.
1,000— 9" head, 3" trav.
300—18" head, 10½" trav.
300—18" head, 12" trav.
300—18" head, 6" trav.

1,000 Fletcher Automatic Let-Offs
4 pin & 6 pin

15,000 Fibre WARP SPOOLS
3½" Fiberhead, 8½" Traverse
1½" Bar, 9/16" Bore
9" Overall

Also Spring Strips, Weights, Top Castles, Heddles, Harness Frames and Other Parts

2 COCKER
11 DRUM
60" Wide 30" Diameter Drums
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Almost NEW
Used Only 16 Months

Stainless steel drums, 5 beam take ups double Quetsch, Reliance single motor variable speed drive 15 H.P., 1150 R.P.M. Taylor instruments and piping. Special reeds 1½" wide, Johnson joints bearings and flexible tubing.

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MOTORIZED 1934 MODEL
6" Gauge Single Deck Twisters
4—80 spindle machines and 3—70 spindle with 6⅛" centers, 3½" wide cork covered take-up pulleys, 4½" diam. motor pulleys. 3 HP General Electric motors with starting switches. 220 volts,, 60 cycles. Machines in excellent condition. Excellent Bobbin Equipment Avail. for These Machines at low Cost.

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All individually Motorized 2 HP. 3 Phase 440 Volts, 60 cycle motors. Bobbin Equip. with all machines. 4—112 spindle, 5¼" spacing, 3⅛" Whitin, single 2" feed rolls.

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7 Late Type
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80 Spindles Motorized
Complete with Tensions, etc.

10 ATWOOD SKEIN WINDERS
For Silk or Rayon
100 Spindles Each
Individually Motorized

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WESTERN ELECTRIC
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225 2 H.P. 1200 R. P. M.
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30 Universal #50, Gear Gainer, motorized, 220 volts, 3 phase, anti-wear Tensions, 3-30 Tapir Cones, in excellent operating condition.

12 Same as Above Except Belt Gainer.

6 Foster Model 75-A for Cotton; Motorized, complete with Waxing Attachments.

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2 WHITIN TRICOT MACHINES
1945 Model
Excellent Condition

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•EXCELLENT TEXTILE MACHINERY AND COMPLETE PLANTS•

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4—WERNER Jiggs, 60", S.S. (new 1948)
1—Set 36 Dry Cans, copper, 4 vertical stacks, 112" wide, 23" dia.
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1—400 lb. Iron Franklin Pressure Dyeing Machine
1—FLETCHER Extractor, M.D. 42" (1945)
1—72" Gessner Vacuum Extractor and Folder
3—PROCTOR & SCHWARTZ Loop Driers, 20-40' long M.D.
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2—Semi-Decators
2—WOONSOCKET Nappers, D.A. 82" M.D. 36 rolls
2—C.&M. Shearing Machines, 60" wide
2—PHILADELPHIA Skein Driers
3—Cotton Slashers

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For Cotton, Woolen, Worsted, Rayon

24—C.&K. W-3 looms, 82" wide
12—C.&K. W-3 92" looms
18—C.&K. W-3 100" looms
48—C.&K. 4x1, 82" looms
24—C.&K. 2x1, 72" looms
48—C.&K. 100 Draper Mod. D. 50"
72—Draper Model E 47½"
60—Draper Model E 45'
40—C.&K. 2x1, 52'
24—C.&K. 4x4, 100"
36—4x4, 82"
500—Draper Model E 40'
12—WHITIN Spinning Frames, Long Draft
24—WOONSOCKET Cards 40", 12" coilers
2—BARBER-COLMAN Warp Tying-in machines, Model J16, size 4J
1—Creel, 360 end DX, with ball bearing tension
1—Creel, 1020 end Sipp-Eastwood DX Pin Creel, Model B
1—Sipp-Eastwood Yard Warper and Creel, 1624 working ends
3—BARBER-COLMAN Automatic Spoolers
3—COLLINS Twisters
25—FOSTER Winders
3—WHITIN Twisters

Miscellaneous Drawing, Finishing & Roving, intermediates

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2—WHITIN Cards 60", 3 cylinder, tape condenser
1—D.&F. Cards 60", 3 cylinder, tape condenser
8—D.&F. Worsted Cards 54" wide, 2 cylinder
2—D.&F. 48" x 60" 3 cylinder cards
* All above cards have iron cylinders
12—French Combs
12—GILL boxes
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4—PRINCE-SMITH Twisters
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5,000 to 30,000 spindles; conventional, long draft, combed and carded with and without weaving.

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1—2-Set Bradford Worsted Spinning
1—3-Set Card Woolen
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1—Foster Model 44 Roto Coner, 100 spindles, 50 equipped with paper tubes and 50 spindles equipped for paper cones, motor driven with three (3) 550 volt motors.
4—Barber Colman High Speed Warpers and Creels, 432 ends per creel, Warper Model HW.
200—Hopedale Looms, 40" cloth, motor driven with motor.
1—Saco Lowell Double cylinder slasher, two cylinders have new covering, with double roll size box and controls.
11—Whitin Spinning Frames, 3¼" gauge, band drive, 8" cylinders, 252 Spindles per frame.
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2—H & B Twisters, 176 spindles each, 3" gauge, 2½" ring, hand drive, individually motor driven with 550 volt motors.
117—Stafford 40" Shuttle Change Looms, individually motor driven with 220 volt motors, with sixteen harness C&K Double Index Dobbies.

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1—50" Padder 3 rolls (rubber)
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1—Mercerizer Chain W & J
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1—46" P. & W. Doubler & Roller (Chinaman)
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3—50" Examining Machines 1—90"

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Two HURRICANE DRYERS

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1—Universal Winder with motor.
1—Hand card cutting machine for Jaquard.
4—Jaquard heads.
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C & K 2 x 1 and 4 x 1

Completely Rebuilt Looms

54" Reedspace

Roller Bearing, Shock Absorber, heavy bar, individually motor driven, 20 harness dobby

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10—Model E Automatic Drapers, 65½" Reedspace with lacey top for 5 shaft operation, completely reconditioned with feelers and cutters

30—Model E Automatic Draper 45½" Reedspace with lacey top for 5 shaft operation, motorized, electric stop motion, completely reconditioned with feelers and cutters

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2—Atwood 5Bs Doubler Twisters, motorized 100 spindles, 6 End.

20—#90 Universal Quillers and Coppers with and without bunch builders, completely rebuilt

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36 Sizing Cans

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5000 SQUARE FEET

22—Model "E" Drapers, 52½" Reedspace

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All equipment in excellent condition

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14—1304 Hook Jacquard Machines

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3—#90 Universal Quillers

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1—Sipp 72" Wraper

Together with all auxiliary equipment for complete running plant

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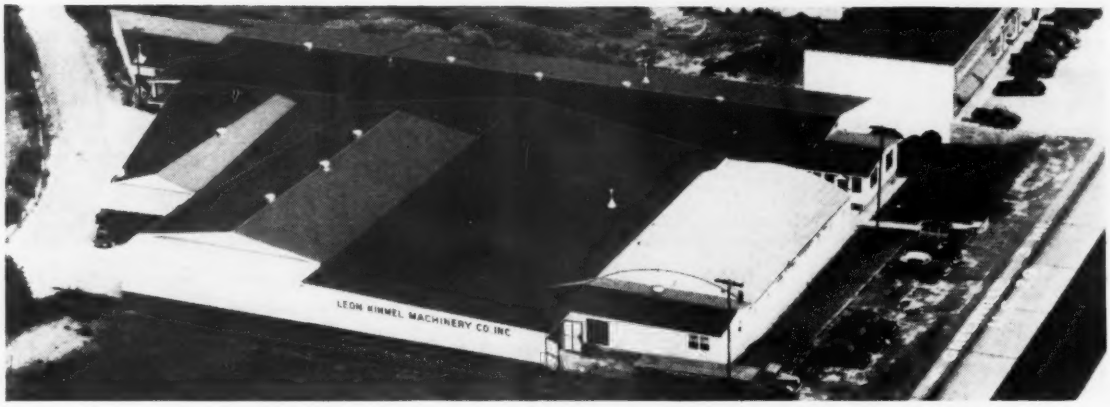

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188—Draper Model E 46" Looms, 51½" reed reed space, Worm take-up, Roper let-off, midget feelers, Stafford thread cutters, sliding bar stop motions, vibrating whip rolls, roll top with 2-harness cams, individual motor driven, 550 volts, loom beams with 20" heads, age 1925-1930.

148—Model E 40" Looms, 47½" reed space, Ratchet take-up, auxiliary shaft with 4-harness spring tops, individual motor driven with 550 volts, loom beams with 22" heads.

278—Draper Model E 40" Looms, 47½" reed space, Ratchet take-up, Roper let-off, midget feelers, sliding bar stop motions, vibrating whip rolls, auxiliary shaft with spring tops, belt driven, loom beams with 20" heads.

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Warping: Automatic Warper, Small and Big Beams
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1—Grand Rapids 3 roll Calender Machine complete.

4—Hoffman Steam Presses with individual motors, with automatic push button control, size 24 x 60.

2—McCreery Brushing Machines, double roll, 54".

Brushing Machines, Ainslie, new and used, all sizes.

1—40 Spindle Foster Cone Winding Machine, Model 12.

Flat Knitting Machines, new and used, all gauges.

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10,000 pieces tempered Masonite Presdwood 23 15/16" x 23 15/16", 3/16" thick, compressed, tempered.

10,000 pieces Panelyte 24" x 24", ⅛" thick, dull black, sanded one side, ideal for work surfaces, table tops, trays, etc.

All new and perfect. Surplus only because of our design changes. Makes us cash offer, any quantity.

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50" Economy Baling Press

Equipped with 6 ft. chamber & two sets retaining dogs. Suitable for baling fluffy materials. In excellent condition.

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#100S200-118P

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50 Gallon ROCHESTER steam jacketed copper dye kettle with stand and drain cock. Excellent quality. Good condition. Reasonable.

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3—Saco-Lowell Bale Breakers, with 12' extended aprons.
1—Woonsocket 42" Bale Breaker, motor driven.
4—Kitson F-2 38½" Hopper Feeders.
2—Kitson F-2 24" Hopper Feeders.
4—Spira Whirl Cleaners, Model 42.
2—Saco-Lowell Cage Sections, 1934 Model.
5—Saco-Lowell 40" Single Process Pickers, with 38" F-5 Hopper Feeders, motor driven, rebuilt.
2—Saco-Lowell 40" Breaker Pickers, with F-5 Hopper Feeders.
4—Saco-Lowell 40" Finisher Pickers, motor driven.

CARDING AND COMBING

50—40" Whitin R. F. Cards, 12" coilers
80—40" Howard & Bullough R. F. Cards, 12" coilers.
100—40" Lowell R. F. Cards, 12" coilers.
4—Whitin 48" Roller Top Waste Cards.
8—Whitin Model D-2 Combers, 8 heads each, 12" coilers, 11-¾" lap.
3—Whitin Ribbon Lap Machines, 11-¾" lap.
3—Whitin Sliver Lap Machines, 9-¾" lap.

DRAWING

60—Deliveries Saco-Lowell Drawing, 5 deliveries per head, 1-⅜" bottom rolls, leather top rolls.
32—Deliveries Saco-Lowell Drawing, 4 deliveries per head, 1-⅜" bottom roll, metallic top rolls.
60—Deliveries Saco-Pettee Drawing, 5 deliveries per head, 1-⅜" bottom rolls, leather top rolls.
8—Deliveries Saco-Lowell Controlled Draft Drawing, 1946 Model, 4 deliveries per head, 1-⅜" bottom rolls, leather top rolls.

ROVING

10—Saco-Lowell 12x6 Slubbers, 10-¼" gauge, 7—60 spindles, 3—72 spindles.
2—Saco-Pettee 12x6 Slubbers, 10-¼" gauge, 72 spindles.
6—Woonsocket 10x5 Intermediates, 7-½" gauge, 108 spindles.
8—Saco-Pettee 9x4½ Intermediates, 7-½" gauge, 104 spindles.
1—Saco-Lowell 8x4 Speeder, with Saco-Lowell Controlled Draft, 144 spindles.
12—Saco-Lowell 8x3½ Speeders, 5-¼" gauge, 160 spindles.

SPINNING

1—Whitin Spinning Frame, Tape Drive, 4" gauge, 2-¼" ring, 240 spindles.
25—Frames Whitin Long Draft Spinning, Tape Drive, 3-½" gauge, 15—1-⅝" ring, 228 spindles, 10—2" ring, 204 spindles.
14—Frames Whitin Long Draft Spinning, Tape Drive, 3-¼" gauge, 1-⅝" ring, 180 spindles.
40—Frames Saco-Lowell Spinning, Tape Drive, 3-¼" gauge, 1-⅞" ring, 252 spindles each, motor driven.
60—Frames Whitin Spinning, Band Drive, 2-¾" gauge, 1-⅝" ring, 240 spindles each.
30—Frames Whitin Spinning, Band Drive, 2-¼" gauge, 1-⅝" ring, 240 spindles each.

TWISTING

2—Whitin Twisters, Band Drive, 6" gauge, 4½" ring, 80 spindles.
11—Fales and Jenks Twisters, Tape Drive, 4½" gauge, 3½" ring, 160 spindles, double bottom rolls, motor driven.
15—Collins Twisters, Tape Drive, 4½" gauge, 3½" ring, 152 spindles, motor driven.
18—Whitin Twisters, Band Drive, 4" gauge, 2-¾" ring, 120 spindles.
4—Fales & Jenks Twisters, Tape Drive, 3½" gauge, 2½" ring, 248 spindles each.
7—Whitin Twisters, Tape Drive, 3¼" gauge, 2½" ring, 224 spindles each.
9—Draper Twisters, Tape Drive, 3¼" gauge, 2" ring, 220 spindles each.
17—Saco-Lowell Twisters, Tape Drive 3" gauge, 1-⅛" ring, 216 spindles.

WINDING, WARPING AND SPOOLING

4—Foster Model #103 Winders, for wooden cones, 100 spindles, motor driven.
4—Foster Model #102 Winders, 100 spindles each, 2—wooden cones, 2—paper cones, motor driven.
5—Foster Model #57 Doublers, for wooden tubes, 100 spindles each, motor driven.
20—#90 Universal Winders, 20 spindles each, bunch builders, underneath tensions.
1—Foster #12 Skein Winder, 100 spindles, motor driven.
2—72" Whitin Skein Reelers, 50 spindles each.
2—Entwistle High Speed Rayon Warpers with 800-end Worcester Warp Compressor Co. Magazine Type Creels, motor driven.
1—Entwistle High Speed Warper, with 540-end Foster Magazine Type Creel, motor driven.
2—Entwistle High Speed Warpers with Foster single end Creels, motor driven.
10—Sipp Spoolers, cone to spool, 60 spindles each, motor driven.

SLASHING

1—Saco-Lowell Slasher, 73½" headway, 5' and 7' cylinder, takes 28" dia. beam head, Taylor controls, copper lined size box.
1—Lowell Slasher, 71" headway 5' and 7' cylinder, Taylor controls, takes 28" dia. beam head, copper lined size box.
1—Saco-Lowell Slasher, 80" headway, 5' and 7' cylinder, Foxboro controls.
1—Johnson 5-cylinder Rayon Slasher, 23" dia. x 66" face copper tinned cans, takes 18" dia. beam head, Taylor controls.

WEAVING

200—Draper Model "E" 40" Looms, 45½" reed space, Dwight Spring Tops.
220—Draper Model "K" 40" Looms, 45½" reed space.
49—Draper Model "K" 42" Looms, 47½" reed space, with 20-harness dobbies.
200—Draper Model "K" 44" Looms, 49½" reed space.
22—Draper Model "E" 50" Looms, 55¼" reed space, motor driven.
100—Draper Model "E" 54" Looms, 59¼" reed space, motor driven.
100—Draper Model "D" 64" Looms, 69½" reed space, with 20-harness dobbies, motor driven.
116—Draper Model "H" 65" Looms, 71" reed space, with 12-harness Gem Head, motor driven.
12—Draper Model "L" 72" Looms, 81½" reed space, with 20-harness dobbies, motor driven.
28—Stafford 72" Looms, 76" reed space, with 20-harness dobbies, motor driven.
50—Crompton & Knowles 4x1 box 40" Automatic Looms, 48½" between swords, 20 or 25-harness dobbies.
50—Crompton & Knowles 4x1 box 50" Automatic Looms, 56½" between swords, with 20-harness dobbies.
28—Stafford 72" Shuttle Changing Looms, 76" reed space, with 20-harness dobbies, motor driven.

CLOTH ROOM

4—Elliot & Hall Cloth Folders, one yard fold, 1—44", 2—47", 1—54".
4—Bushnell Toggle Joint Cloth Presses, motor driven.
1—Hermas 4-blade Shear, 58" wide, with rolling and unrolling head, motor driven.
1—Curtis & Marble single blade Shear, 44" wide, with rolling and unrolling head.
6—68' Cloth Inspecting Machines, with rolling-up stand, reverse motion, motor driven.
2—49" Curtis & Marble Inspecting Machines, with reverse motion.

DYEING & FINISHING

1—Philadelphia Long Chain Warp Dryer, motor driven.
4—Hussong Skein Dyeing Machines, 400 lb. capacity, stainless steel lined tanks.
1—48" Fletcher Extractor, copper basket, underneath motor drive.
1—60-arm Buhlman Skein Dyeing Machine, 7-sections each side, stainless steel tanks, motor driven.
1—6-compartment Chain Warp Dyeing Machine, motor driven.
1—Giles Skein Dyeing Machine, 15 poles, stainless steel.
1—24-can Butterworth Dryer, new stainless steel cans 23' dia. x 72" face, vertical frames, Johnson joints.
1—17-can Butterworth Dryer, stainless steel cans 23" dia. x 130" face, vertical frames, Johnson joints.

BRAIDERS

Lot of #2 New England Butt Braiders, 3, 16, 20, 24, 28, 32, 36, 40, 44, 45, 48, 52, 53, 61, 64, 65, 72, 80 and 82 carriers.

NARROW FABRIC LOOMS

Fletcher and Crompton & Knowles Narrow Fabric Looms, 2, 4, 6, 8, 12, 20, 24, 32, 48, 56 and 72 space.

MISCELLANEOUS

1—Hygrolit Yarn Conditioning Machine, Model A-807, 35" wide, motor driven.
1—Saco-Lowell 3-section W-3 Waste Machine, motor driven.
2—Platt 6-cylinder Hard Waste Machines, 36" cylinders, motor driven.
2—Terrell Roving Bobbin Cleaners, take 12" bobbin.
1—Economy all steel Baling Press, Style 60F3S, 60" x 30" x 108", 100# capacity, motor driven.
6—Boyce Knotters.
121—Abbington Hand Knotters.
1—Henry L. Scott Cloth Tester, 0 to 300 lbs.
1—Color Fadeometer, almost new.
1—Emerson Electric Conditioning Oven.
1—Alfred Suter Yarn Tester.
1—Belger Sliver Tester, wall type.
1—Sample Yarn Drying Cabinet.
1—Atlas Weatherometer, Type BWMC, 30 samples capacity.
1—Ediphone Unit, consisting of 1—Miracle Dictator, 1—Streamline Dictator, and 1—Master Shaver.
1—#7 Sturtevant Blower.
1—#9 Sturtevant Blower.
1—100 KW Motor Generator Set, 230 volts DC, 2200/3/60 AC.
1—150 KW Motor Generator Set, 230 volts DC, 2200/3/60 AC.

Special Lot of Looms for RAYON

100—Draper Model "K" Looms, 62" cloth, 67½" reed space, dobbies and Spring tops, 6-bank warp stop motion, 24" beam head, motor driven, excellent condition, now operating.

6—Sets Platt Bros. 50" 2-cylinder Roller Top Woolen Type Cards, each consisting of 49" Bramwell Automatic Feeder, Metallic Breast, Breaker and Finisher Card, Scotch Intermediate Feed and 2-bank Condenser, 72 ends, 1915 Model.
2—Davis & Furber Wool Ring Spinning Frames, Tape Drive, 6½" gauge, 4" vertical ring, 144 spindles each, individually motor driven, 1941 Model.

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BEAMER, 60" with steaming Drum
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BLOWERS, G.C. 8x5-3/5" 350 cu. ft. per min.
BOIL-OFF MACHINES, New, 3 & 5 drum
BUTTON BREAKER, V.V. spiral, 60"
BUTTON BREAKER, V.V. 50"-60"
CALENDER, Kasterinsky 36" for knit goods
DRY CANS, set of 8, 72"x23" dia. horizontal
DRY CANS, 7, Morrison 48" high pressure
DRYING, DRUM, 61" face x 24" dia.
DRYER, Loop 84", 10 fans, revolving poles
DYE DECKS, Stainless steel 4' to 20', New
DYE DECK, 2' Sample, stainless steel lined
DYE TUB, 8' stainless steel lined
DYEING MACHINES, Smith-Drum Paddle type
DYEING MACHINES, Smith-Drum Pocket type
DYEING MACHINE, Rochester, Rotary 30"x20", 3 pocket 20 lb. capacity
EMBOSSERS, 54" & 60"
EXTRACTOR, 26" American, Motor driven
EXTRACTOR, 48" Burkhardt, rubber basket
EXTRACTORS, Beam 50" & 60" B.B.
EXTRACTOR, K&G 48" rubber lined basket
FLAT FOLDERS, Elliott & Hall adjustable
INFRA RED Units complete with blowers
INSPECTION TABLES 47"
JIGGS, 90" Stainless Steel Lined
JIGGS, 50" St. St. & rubber lined
KNITTING MACHINES, Lamb 24" & 48"
MOTORS, ¾ to 5 HP AC/DC 220 volt
PADDER, 90"
PALMER QUETCH UNIT, Butterworth, 54 & 60"
PRINT MACHINE, 10" sample & ribbon
PRINT MACHINES, 6 & 8 color, 60" Waldron
PUMP Worthington Vacuum, 18x9 complete with 25 HP
QUETCH, 2 roll BB 50" & 60" ball bearings
QUETCH, 3 roll 50" Morrison, motorized
SCUTCHER, New
SEWING MACHINE 60ABB with 72" carriage
SHEAR, Hermas, 4 knife, 70" wide
STEAMERS, 5'x5'x10' quick opening doors
TENTER FRAME, Pin W&J 30'x220" wide
TUBERS, Paterson, variable speed motors
TUBER, V.V. with doubling attachment
WASHERS, Stop, New, stainless steel
WASHER, Steel, G.L. type
WASHER, Slop, Cypress, 15' lg.
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6—20 x 61" doffers.
3—#45 Universal Winders.

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24—51" cloth space, C & K 4 x 4, 20 harness double index ball bearing dobby, electric stop motion, motor driven.
18—68" reed space, C & K 4 x 4, dobby roller bearing, electric stop motion, motor driven.
28—72" cloth space, Modified "D" Draper cam looms, belt driven, mechanical warp stop.
40—80½" reed space, Modified "D" Draper, Motorized, electric warp stop, 16-harness intermediate read.
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NEW HERMAS 58" Measuring machine. Running C & K, Draper plants.
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(Continued from page 316)

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Of Textile World, published monthly at Albany, N. Y., for October 1, 1948.

State of New York } ss.
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared J. A. Gerardi, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publisher of Textile World, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (section 537, Postal Laws and Regulations), printed on the reverse of Form 3526, to wit:

1. That the name and address of the publisher, editor, managing editor, and business manager is: Publisher, McGraw-Hill Publishing Company, Inc.; Editor, C. W. Bendigo; Managing Editor, William B. Dall; Business Manager, William Buxman, all of 330 West 42nd St., New York 18, N. Y.

2. That the owner is: McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York 18, N. Y. Stockholders holding 1% or more of stock: Curtis W. McGraw, Executor of the Will of James H. McGraw, 330 West 42nd Street, New York 18, N. Y.; James H. McGraw, Jr., 330 West 42nd Street, New York 18, N. Y.; James H. McGraw, Jr., Curtis W. McGraw and Willard T. Chevalier, Trustees for: Harold W. McGraw, James H. McGraw, Jr., Donald C. McGraw and Curtis W. McGraw, all of 330 West 42nd Street, New York City; Edwin S. Wilsey and Curtis W. McGraw, Trustees for James H. McGraw, 3rd, Madison, New Jersey; Curtis W. McGraw, Donald C. McGraw, both of 330 West 42nd Street, New York City; Mildred W. McGraw, Madison, New Jersey; Grace W. Mehren, 556 Arenas St., La Jolla, Calif.; Jacob L. Hain, 1 North 5th Street, Reading, Pa.

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4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

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Sworn to and subscribed before me this 29th day of September, 1948.

[SEAL] ELVA G. MASLIN.

(My commission expires March 30, 1950.)

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36—C&K, 2x1, M.D.

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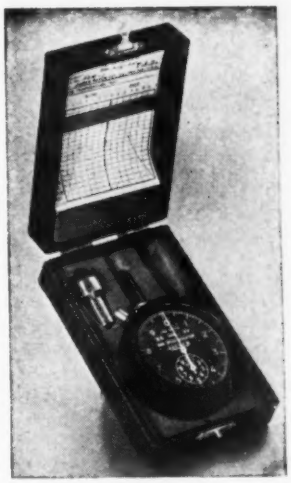

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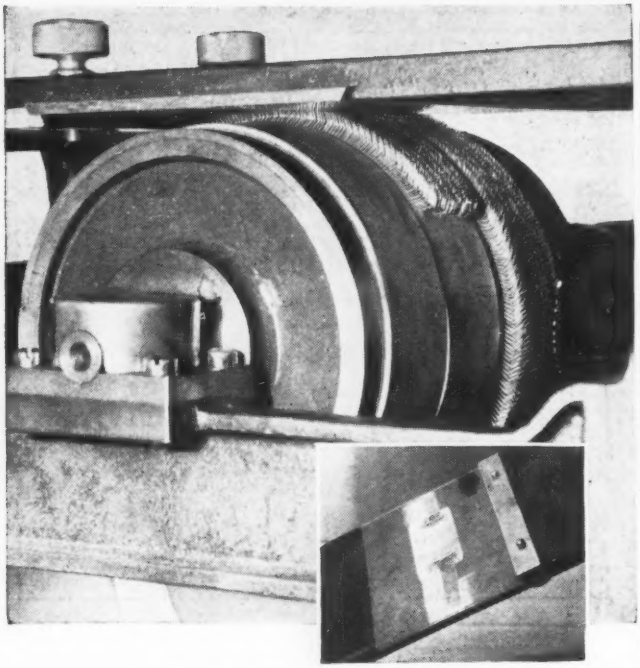

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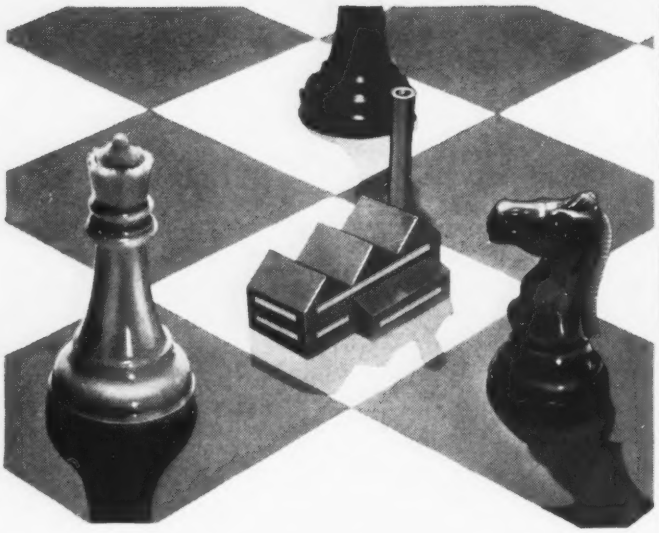

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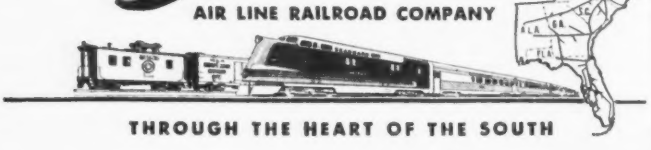

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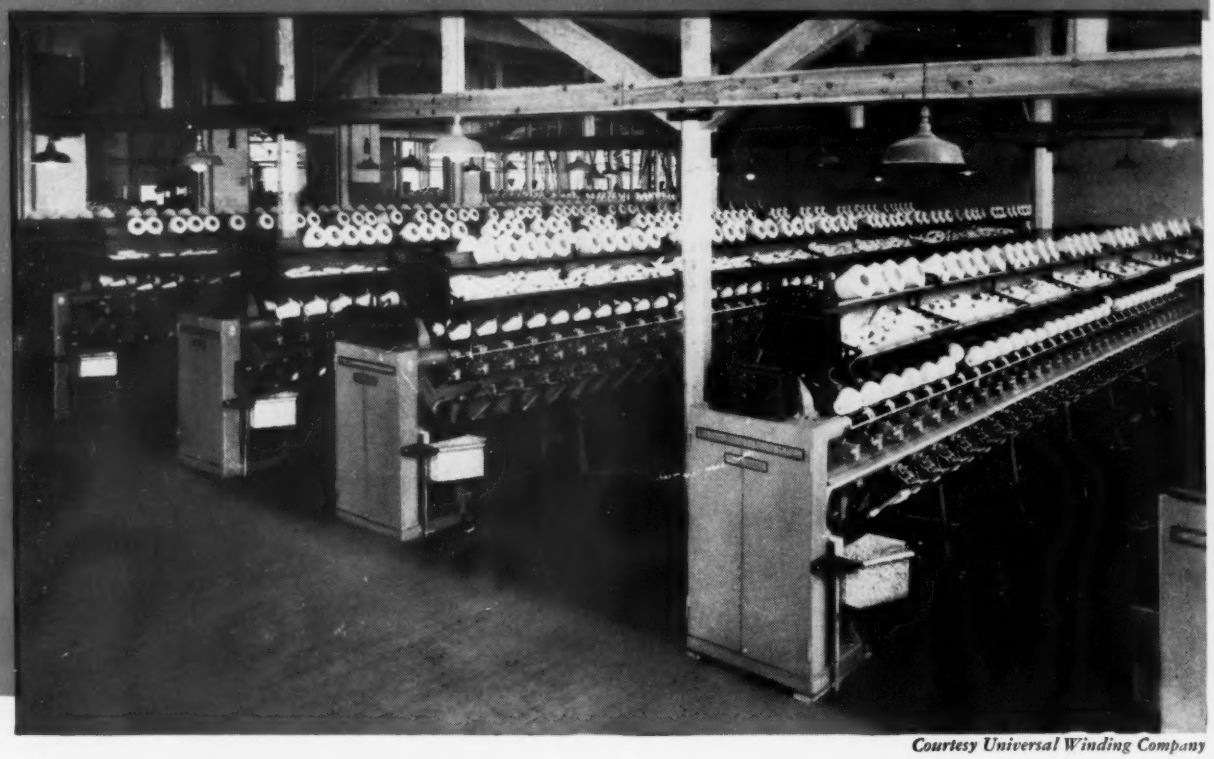

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